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Original Articles.

PUERPERAL SEPSIS AND ITS PROPHYLAXIS.*

By L. V. FRIEDMAN, M.D., BOSTON.

THE medical profession of this Commonwealth has been much stirred recently by the publication of statistics which seem to indicate that in this old and highly educated community the mortality in childbed is much higher than in comparatively new settlements like New Zealand. A variety of propositions, all tending to centralize obstetric practice, has been brought forward. This in turn has aroused the general practitioner, especially those situated outside of the large cities and in the truly rural districts, who feel they are the subject of adverse criticism by their confrères. Various maternity benefit bills have been offered by members of the legislature and by the commission appointed by the Governor to study the situation. My own opinion, and I do not think it differs from a majority of the profession, is that these bills will do little to lessen obstetric mortality, that they constitute a first step and a large one, toward State medicine, and that they would involve a large and disproportionate annual expenditure of not less than a quarter of a million dollars and possibly as much as two million dollars. As for this con-

trovery between the specialist and the general practitioner, if the general practitioner is getting bad obstetric results much of the blame rests with the specialist who usually has been the professor or instructor responsible for his obstetric education.

Further, are these statistics to be accepted at their face value? By no means, since they include deaths from criminal abortions and deaths in the hands of Christian Scientists and other irregular methods of treatment which cannot fairly be attributed to the medical profession. On the other hand, there is no doubt that a great many obstetric deaths are not recognized as such and are wilfully reported under other heads. There are other factors which tend to invalidate these statistics,—the two influenza epidemics undoubtedly were the cause of many obstetric deaths, and besides those obviously due to influenza I believe there have been many cases of fatal puerperal sepsis in patients supposedly well over their influenza. The prolonged ill effects of the influenza are but now beginning to be realized in nervous conditions, breast abscesses and other local infections which do not develop for many months after the attack of influenza.

However, even if the statistics are worse than the facts, there is no doubt that there is room for improvement—that there are a large number of deaths from puerperal sepsis and a still larger number of cases of prolonged invalidism following obstetric infections. What can we do to improve our obstetric results?

* Read before the Lawrence Medical Society, April 25, 1921.

My answer divides itself into two divisions, the first dealing with general considerations, the second with technical details. Any attempt to lessen the amount of puerperal sepsis must depend primarily upon prophylaxis, consequently this paper might perhaps have been better named a consideration of asepsis, and it is mainly to the analysis of methods of asepsis that I intend to devote the technical details of the paper.

General Considerations.

It is today, I suppose, very generally admitted that an obstetric delivery is a surgical procedure. Its aim is to relieve suffering and effect the delivery of the child in normal cases, by careful asepsis and the use of an anaesthetic, both being surgical measures, and in operative cases by the use of instruments or the operator's hands, again with an aseptic technique and under an anaesthetic. But in practice, even the least of the minor general surgical operations is entered upon with more thorough preparation of the field of operation, more provisions for securing asepsis and more attention to the giving of the anaesthetic. The old tradition that a woman in labor is passing through a normal, not a pathological occurrence, still influences us, although the individual woman may be far removed from the primitive woman; and what is more to the point, a different value is today placed on her life and on that of the child than obtained in primitive communities. The obstetric delivery should be organized as in any well conducted abdominal operation. There should be a competent anaesthetist and a competent assistant, the former because the anaesthesia is apt to be prolonged, the latter because the technical manoeuvres in obstetric operating frequently demand a pair of skilled hands on the abdominal side while the operator is working from below. It is a logical deduction that only the rich can be delivered at home; the poor, if they are to secure adequate service, must be cared for in hospitals.

But there is no doubt that hospital service without certain restrictions will tend to increase rather than decrease puerperal sepsis. Such restrictions are the isolation of the obstetric beds, and especially the obstetric operating rooms and the nurses serving them, from the general surgical work. It should not be inferred from these statements that every woman in labor is to have an operative delivery. The normal process well conducted does less damage to the pelvic fasciae than a forceps or version by skilled hands; and the artificial dilatation of the primiparous os should be regarded as a major operation requiring definite pathological indications. Our zeal for operating has progressed more rapidly than our ability to secure efficient aseptic technique. On the other hand, it seems clear that long labors are followed by sepsis, due in part to the exhaustion

of the patient's defensive powers and in part to the fact that they often are terminated by an operation. The decision when to interfere calls for a highly trained judgment and is to be made on the physical findings rather than on the desire to put an end to the patient's suffering.

Caesarean.

Another prolific source of obstetric mortality is to be laid at the door of Caesarean Section. The operation is the simplest of major surgical procedures. It is too easy. When, about twenty-five years ago, Caesarean Section came into common use it was hailed as a great savior of babies. This function it still fulfills. But from my own experience and that of other men who see every year great numbers of Caesareans "going wrong," there is no doubt that it plays no unimportant part in piling up a huge mortality from sepsis. The trouble lies not with the operation but with the choice of the operation for unsuitable cases. The obstetric consultant is constantly seeing cases which terminate fatally where the technique of the operator is beyond question but where his judgment has been at fault. Most of these cases have been in the hands of recent graduates with an excellent technical training but with no background of obstetrical experience to ripen their judgment, or in the hands of a general surgeon who knows nothing of obstetrical sepsis and its peculiarities. But even in the hands of the consulting obstetrician the Caesarean Section has a higher mortality than it is credited with. Three such obstetricians (two of them have an almost perfect technique and I am the third) each lost two Caesareans from infection in Boston within a period of three months in a recent year. However, the mortality of Caesarean can be kept down to a very low figure, and with that in view the following suggestions are made which, although they will result in the loss of an increased number of babies, will save many mothers.

The Caesarean should not be chosen after the patient has been in active labor more than a few hours. The statistics of the Boston Lying-in Hospital showed conclusively that both morbidity and mortality varied directly with the number of hours of labor which preceded the operation.

The rupture of the membranes adds greatly to the chances of infection, so that the operation ought to be refused when any considerable delay must occur between the rupture of the membranes and the performance of the operation.

The operation should, of course, never be done after a trial to deliver from below has been made.

Nor should it be done where any vaginal examination has been made, no matter how perfect the aseptic technique of the examiner.

Careful abdominal palpation, aided or verified by a rectal examination, ought to be depended upon in every case, and no vaginal examination made until it has been decided that a Caesarean is not necessary.

Finally it is of great importance to limit the operation to the delivery of the child. The appendix should not be removed, nor the gall-bladder palpated unless they are in such acute condition as to threaten the life of the patient. The tubes should not be resected nor any other secondary operation be performed unless it be the removal of the uterus for fibroids or carcinoma. The reasons for limiting so sharply the manipulations in Caesarean are purely empirical. No adequate reason has been advanced to explain the marked increase in stormy convalescences and deaths from sepsis following a Caesarean with which other operative procedures have been combined, but there is no doubt of this sequence. A rigid observance of these restrictions in selecting cases for Caesarean ought to bring the mortality for the operation down to a fraction of one per cent.

The Sources of Infection.

There are undoubtedly instances where the infectious agent is dormant in the vagina at the time labor sets in. In no other way can be explained the occasional cases of severe sepsis following a normal delivery during which no vaginal examinations have been made. Another source of sepsis may lie in coitus at full term, which is apt to start up labor and to be followed by sepsis. Still another possible source is an active focus in some other part of the body: in the tonsils or in the pelvis of the kidney.

But these sources are exceptional; in the great majority of all cases of puerperal sepsis the infectious organism is introduced on the examining finger of the obstetrician.

Although there are many minor variations, cases of puerperal sepsis may be broadly classified under three heads:

1. The virulent hemolytic streptococcus variety. This usually declares itself within 18 to 30 hours after delivery. There is a chill, an abrupt rise in temperature to 102.8° or 104° , a rapid pulse. A persistent high temperature, delirium and usually death within four to eight days. A blood culture usually shows the hemolytic streptococcus. Treatment is without avail and local treatment is obviously useless since the disease is in the blood stream and not in the uterus.

2. A variety due to pyogenic bacteria, non-hemolytic streptococci, staphylococci, the coli communis, etc. The onset is less abrupt and the rise in temperature is frequently that known as the "flight of steps chart," that is, there is no marked morning remission but by the fourth day the evening temperature has reached 103.5° . The uterus is large and tender,

the lochia soon becomes streaked with pus and later pure pus. These cases run a prolonged course of three to five weeks, when some die of exhaustion and others recover. This type develops complications—pus tubes, pelvic abscesses, etc. Again, local treatment is mentioned only to be condemned. The process is a local one, but the use of the curette is futile as the organisms are too deep in the crypts to be removed as a whole, and curettage may be followed by true septicemia or blood infection due to the breaking down of the natural protective barrier of lymphocyte infiltration, which the natural processes throw around local collections of pus. The value of vaccine treatment has not been established. Washing out of the uterus probably has no effect unless it happens to clear the canal and so establish better drainage; but it is better, if you feel you must do something, to use sterile water for the douche rather than corrosive or alcohol. However, even the douche, in so far as to be given properly, the cervix must be drawn down so that the nozzle can be introduced in clean fashion, by sight and not by touch, involves the danger of causing an extension of the infection through the trauma incident upon local manipulation. The treatment should be that of good typhoid nursing: fresh air, careful feeding, baths for comfort, and because they seem beneficial empirically, an ice-bag over the uterus, and ergot.

3. The third variety is sapraemic, the absorption of poison from decaying tissue and blood clot. The onset is not abrupt nor so violent as in the other forms. The temperature seldom passes 103° , the pulse is low in relation to the temperature. The lochia are very bad in odor. These cases usually need no treatment. They would not be injured by curettage and a wash, often would be benefited by the improved drainage which follows it, if we could be sure that we are dealing with a saprophytic and not with a virulent organism. But as uterine cultures are notoriously uncertain and require a considerable period for growth it is wiser to refrain from local treatment; to use the ice-bag and ergot. However, in some instances it has seemed to me that the ergot contracted the lower segment of the uterus and thus interfered with drainage, whereas morphia seemed to relax the cervix and to assist drainage.

In short, the surgical treatment of the infection does not offer much hope, many die because of it, some recover in spite of it. If we are to effectively diminish puerperal sepsis we must pin our faith on prophylactic measures—in a word, on asepsis. I hope you will not find it tiresome if I go into elementary detail, for a successful obstetric technique depends upon the minutiae and refinements of asepsis. This statement deserves some modification. Perhaps we have been in the habit

of accounting for sepsis by scrutinizing too closely the technique of the delivery and not giving enough heed to the condition in which the pregnant woman reaches the delivery table.

The preparation of the patient ought to begin months before the labor. This is becoming more generally possible, as even the unintelligent classes are learning the value of pre-natal care. The importance of careful watching of the function of the kidneys is so well appreciated that we may pass it without further comment. But there are two other large classes of cases which do not receive the attention they merit. There are a surprisingly large number of severe anaemias in pregnant women, and if the character of the blood is not improved in such instances there is no doubt that the patient's resistance is diminished and, if infected, her fighting power is also less. Some years ago, in looking over the cause of death in placenta praevia cases at the Boston Lying-in Hospital, I found that more of these patients died from infection than from hemorrhage, an indication of the diminished resistance where the blood has been depleted.

The second omission is in regard to the condition of the heart. Where there are obvious signs and symptoms of valvular disease, the pre-natal care takes account of the heart. But in a great many instances there is a valvular disease with a compensation which is adequate up to some time between the seventh month and full term, but which suddenly breaks down. The patient then faces a difficult operative delivery with her main fighting organ incompetent to endure a long struggle with sepsis. There is still another form of cardiac failure in pregnancy which is often associated with sepsis. I refer to the heart without demonstrable valvular heart disease, but so demoralized muscularly by the toxemia of pregnancy as to fail utterly when it has to undergo the strain of an operative delivery and subsequent sepsis. Both the anemias and the cardiac conditions can be materially improved if recognized before the seventh month.

Turning now to simple technical details—the rectal examination should in large measure replace the vaginal. Gloves for rectal examination should be boldly marked and should never be used for vaginal examinations nor for operating. Careful palpation, watching the fetal heart and the use of rectal examination makes it possible to deliver many cases with only one, sometimes with no vaginal examining. Were we to make no vaginal examinations the fight against sepsis would, except in rare cases, be limited to the operative work.

It is today very generally accepted that the various phenol and mercury derivatives (*i.e.*, lysol, bichloride) are essentially useless as antiseptics except by long immersion. Dependence is to be placed on thorough mechanical

cleansing with soap and water, followed by immersion in 70% alcohol. The brush should be used on hands and forearms and repeated scrubbing with cotton sponges on the field of operation. The internal cleansing of the vagina before operation to consist of a gentle wiping out with alcohol by the operator rather than by the nurse who prepares the patient externally. It is well to remember, in this connection, that there are a few individuals who exhibit remarkable sensitiveness to formalin and benzine, especially when these agents, however dilute, are applied to mucous membranes, and these are among the most commonly used denaturing agents.

Gloves are prepared usually in one or two ways. Either a single pair is boiled in an open receptacle which, of course, does not sterilize them sufficiently owing to their tendency to fill with air and float; or several pairs are wrapped in a cover and boiled in a sterilizer; but as rubber is an efficient insulator, the inner surfaces do not receive adequate sterilization. Dry sterilization of gloves in an autoclave is preferable but is open to the objection that considerable time and care are necessary for their proper preparation and in consequence they are usually sterilized in quantities and not used for quite a period, which lays them open to suspicion.

One of the great advantages of the use of gloves is often overlooked, namely, the diminished opportunity of abrasion or injury of the vaginal and cervical epithelium. There is no doubt that the use of sterile gloves handled by previously sterilized hands reduces enormously the chances of introducing infectious material. But as it has been proven that the streptococcus is to be found in the vagina in 70% of all women in labor, it becomes necessary to avoid inoculating the patient with these organisms commonly present in the genital tract. It is in this respect that the smooth surface of the gloves prevents abrasions in vaginal examinations and in the intra-uterine manipulations necessary in operative procedures. But the operator should not depend on the glove alone, he must avoid epithelial injury by making all internal manipulations with the highest degree of gentleness.

The transmission of the *Bacillus Coli Communis* from the region of the anus to the vulva and thence into the vagina, is the cause of a small but definite number of infections. This is to be avoided in part by careful avoidance of the anal region during the scrubbing of the field of operation by the nurse, who may hold a sterile sponge over the anus with one hand while scrubbing the patient with the other. Then during the process of dilating the perineum and vagina, the operator should milk the rectum until it is free of feces which, in spite of the preparatory enema, are usually still present high up in the rectum when they

are dislodged by the head or breech in its descent. But in spite of these precautions it will be necessary for the operator to watch the anus constantly while operating lest he drag fecal particles into the vagina.

Immediately after the delivery, the opportunities for introducing infection are manifold and the conditions most favorable for its development. The flushing out of the whole genital tract by the amniotic fluid, followed by the child which wipes it out while it is well stretched, and finally the downward sponging effected by the placenta, are excellent natural preventatives.

Consequently the obstetrician should take considerable risks rather than to permit the fingers to again enter the birth canal after the placenta has been delivered. There are three post-partum conditions which are considered sufficient indications for the non-observance of this rule.

The first is the repair of the torn cervix. Certainly after a normal dilatation and delivery this is never indicated, and even where after operating there is good reason to believe that the cervix is badly torn, unless it is bleeding enough to constitute danger to the patient, its repair can be postponed until after the convalescence, with less danger to the life of the patient and much greater assurance of a satisfactory plastic result as the involution of the uterus immediately after labor loosens the stitches and the inevitable soaking in of lochia prevents good union.

The second condition is the manual removal of the placenta. This is rarely necessary. A slow and patient conduct of the third stage and the use of an anaesthetic to enable one to Credé satisfactorily, will, even in the difficult cases, usually do away with the necessity of going up for the placenta. The only excuse should be the existence of a genuinely adherent placenta, which is a rare condition.

The third justifiable reason for entering the birth canal after delivery is in cases of post-partum hemorrhage. In the absence of an over-distended uterus from hydramnios, twins, or one abnormally large child, post-partum hemorrhage is to be considered a preventable accident of labor. If the uterine musculature is not permitted to fag itself by hours of ineffective labor; if the third stage is conducted patiently, hemorrhage does not occur. Where it does follow the rapid emptying of an over-distended uterus it can usually be controlled by the prompt use of pituitrin and ergot hypodermically, and by massage of the fundus.

There may be mentioned, only for the purpose of condemning them, two other procedures.

Packing the uterus with gauze is invariably followed by more or less severe sepsis. The only excuse for packing a uterus is a sudden hemorrhage post partum, so rapid and profuse as to demand immediate control, and in an ex-

perience covering twenty years of hospital and private practice I have never seen a case which required packing.

The other procedure is the post-partum douche. Its use in the treatment of sepsis has been mentioned. As a routine measure, either after labor or in convalescence, it serves no purpose; it may carry up bacteria, and it is to be condemned.

In general it is well to remember that labor is naturally a slow process and that it can be hurried only by methods which increase the possibilities of infection. This holds true of the third stage as well as of the delivery of the child. I am conservative enough to believe that there is still a place for normal delivery even in primiparous patients. To be more explicit, I believe that it is unnecessary and unwise to use forceps merely for the relief of suffering, where there is steady progress without artificial aid.

The attitude of both the profession and the laity in regard to puerperal sepsis is a curious survival of the early antiseptic period. As has happened so often in medical history, when the true nature of sepsis was discovered, it was thought to be a simple matter to secure either a perfect prophylactic or a specific cure. Consequently it soon became the custom of the laity to blame the physician in cases of sepsis, and for the physician to be ashamed of a septic case. Where conscientious and intelligent attempts to secure asepsis have been followed out, this is unjust on the part of the laity, and unwise on the part of the physician. The laity should be given to understand that occasionally sepsis will creep in even if every precaution to prevent it has been taken, and if every precaution has been exercised, the physician may deplore but should not be ashamed of the failure.

However, even if our best efforts at asepsis do not give perfect results, they achieve a difference in the end. A larger proportion of septic cases recover where careful aseptic methods have been used. This is undoubtedly due to the fact that in such instances the infection is with an organism of a lower degree of virulence. In other words, the scrubbing of the obstetrician's hands and the use of gloves do away, in large measure, with the extremely virulent infections which were formerly borne directly by the physician from the opening of an abscess in one patient to the vagina of another. The accidental contaminations are generally less virulent, and such infections do not commonly result in death.

REMOVALS

DR. JOE VINCENT MEIGS has removed his office to 180 Commonwealth Avenue, Boston.

DR. PERCY BROWN has removed to 44 Gloucester Street, Boston.

DIAGNOSIS AND TREATMENT OF NEUROSYPHILIS.*

By LESLEY H. SPOONER, M.D., BOSTON.

SINCE the day when Fournier recognized the relationship between syphilis and what he called parasymphilitic affections there has been a distinct tendency to consider that whole group as one constitutional disease. That the great French syphilographer was unable to establish an absolute connection between the two was due to the fact that he was in advance of his time. The recognition of the specific organism, the development of serology and the study of the cerebro-spinal fluid has enabled us to bridge over this chasm and demonstrate the syphilitic origin of tabes dorsalis, general paresis and other forms of disease of the cord and brain, which we now includes under the general heading, neurosyphilis.

This discussion is in no sense neurological, but will include the early diagnosis and specific treatment of two groups of neurosyphilis, namely, tabes dorsalis and a miscellaneous group which we call syphilis of the central nervous system. The latter lesions are produced by circulatory, proliferative and degenerative changes produced by the spirochete of syphilis, independent of the pathological entities, tabes and general paresis. The latter disease will not be considered, since the writer's experience does not warrant its inclusion.

White,¹ Engman and Eberson,² and Fordyce³ have called attention to the absence of extensive skin manifestation of syphilis in cases presenting neurological involvement. This has been attributed by some to an infection with a distinct variety of the organism. Others lay stress upon the immunity established by the action of the skin in the production of a true latency. Engman and Eberson feel that where no extensive cutaneous efflorescence occurs no true latency is established. It is these cases which subsequently develop neurosyphilis.

Whichever view is correct it would seem of little importance, if we are to believe the latest concept that neurological involvement exists early in the disease. This view which is held by Solomon,⁴ Engman and Eberson, and Fordyce has been suggested from my own experience and is, in fact, one of the reasons for presenting some observations in regard to the early diagnosis of neurosyphilis.

Signs of irritation in the spinal fluid have been demonstrated in from 15 to 18.3% of cases of apparently cured somatic syphilis, presenting no signs of neurological involvement. It is probable that the invasion of the nervous system takes place certainly within the first year of the disease or not at all. Although it is possible to influence by appropriate specific

therapy established cases of neurosyphilis, the chances for lasting improvement are greatly enhanced by early diagnosis. Certain forms of neurological disease may manifest themselves very early, but the great bulk do not present definite clinical signs for a considerable period. It is as culpable for the physician to await the development of clinical tabes as it is considered now to allow one to progress to the secondary roseolar instead of demonstrating the organism in the primary lesion.

The means of early diagnosis of neurosyphilis are in our hands today and should be utilized in every case of somatic infection. The lumbar puncture should be employed early in the disease not only in the presence of nerve symptoms, but also in every case which we are about to pronounce free from manifestation of the disease. It has been my practice for the past two years to examine the spinal fluid at a period of at least six months following cessation of treatment. The results of spinal puncture on ten cases is shown in the following table:

TABLE I.

CASE	WASSERMANN	LYMPHOCYTES GLOBULIN PER CMM.	STAGE OF THE DISEASE WHEN TREATMENT FIRST INSTITUTED
203	0	0	1
425	0	0	5
432	0	0	0
473	0	0	5
630	0	0	16
739	0	0	2
910	++	+	2
963	+	0	0
994	0	0	10
1153	0	0	3
			Latent

This small group show that after the patient has become asymptomatic and has been serologically negative, 40% show in the spinal fluid indications of irritation, obviously due to early neurological involvement. In those cases treatment was continued in an intensive manner. In two cases a normal fluid was subsequently demonstrated. The other two refused a further spinal puncture.

It is obvious from this small series and from a larger one reported by Engman and Eberson, which showed positive signs of spinal irritation in 33% of thirty-one cases of latent syphilis examined, that neurosyphilis is fundamentally an early stage in the disease, that long before any clinical manifestations appear a pathological condition may be demonstrated in the spinal fluid. This is shown generally by an abnormal increase of lymphocytes, less commonly by an increase of globulin content or by a positive Wassermann reaction.

Treatment.

After the establishment of a diagnosis of syphilis by serological and spinal fluid examination the next consideration is that of treat-

* Read before the Hampshire and Franklin District Medical Societies, September 14, 1921.

ment. This will be limited in my discussion to specific medication and will not include general hygienic and educational measures which are, of course, of obvious advantage.

In 1914 I published a report upon the treatment of syphilitic diseases of the central nervous system by intravenous injection of salvarsan.⁵ The investigation was carried out in an ambulatory clinic, at the Massachusetts General Hospital, covering a period of two and one-half years. At that time I was able to show symptomatic improvement following this form of medication in a large majority of cases of tabes and all those of "Syphilis of the Central Nervous System." This improvement was substantiated to a large extent by the serological and spinal fluid findings.

Swift and Ellis⁶ at nearly the same time published their first report on the treatment by intraspinal injections of salvarsanized serum. As all know, this consists of the intraspinal injection of heated serum recovered from the patient's own blood, drawn one-half hour after the intravenous administration of salvarsan. This report showed most satisfactory results and for some time the simple intravenous method fell into some disrepute. Later minute doses of arsphenamine, a preparation similar to the original salvarsan, were added to the serum advised by Swift and Ellis.

That there is one method of treating neurosyphilis seems today to be erroneous. I have used the following method of procedure: A complete physical examination of the patient necessarily precedes the administration of a drug which is known to all to be a poison. The latter includes, as indicated above, a study of the blood and spinal fluid. Diarsenol in alkaline solution dissolved in freshly distilled saline 30 c.c. to each 0.1g. is introduced slowly into the most convenient vein. The dosage is usually 0.3g. Although it has been claimed that doses of 0.4g. to 0.5g. are necessary, it seems wise to err on the side of caution. The results seem to warrant the claim. The number of doses varies with the individual case. It is generally wise to give series of four to six weekly injections, repeated in most instances every three to four months. The progress of the case is followed not alone by the symptomatology, but also by repeated examinations of the blood and spinal fluid. As active signs of the disease begin to decrease—in favorable cases—the space between series is increased. In very active forms intensive treatment is indicated and should include mercurial administration, either by injections or inunctions.

This procedure is followed unless the patient shows no indication of arrest of the process—either symptomatically or in the spinal fluid analysis. In the latter instance the combined treatment is employed for a sufficient period to give it a fair trial. The blood which is withdrawn one-half hour after the administration

of diarsenol is allowed to clot and the latter separated from the walls of the tube by means of a platinum wire. After twenty-four hours in the ice box the clot is compressed enough to yield sufficient fluid to obviate centrifugalization. The serum is heated to 56° C. one-half hour. After the withdrawal of the spinal fluid the treated serum is introduced slowly by gravity.

The writer has had no personal experience with serum fortified with arsenical preparations. Its use has been considerable of late, but it seems problematical at present whether this is of greater value than the treated serum alone. Fordyce claims that the addition of one quarter milligram or more of arsphenamine where a number of injections have to be given will in some patients give rise to irritative symptoms. The use of less is of no value above that of the treated serum.

The following conclusions in regard to treatment are justified. The persistent, careful intravenous administration of arsenical preparations in cases of tabes and central nervous syphilis yields without danger to the patient, satisfactory results in a large percentage of cases. The improvement is symptomatic and is accompanied by corresponding changes in the reaction of the blood and spinal fluid. Those cases which have not yielded to the intravenous method have shown improvement under the combined treatment. In many cases the disease appears arrested. Even in favorable ones, persistence in treatment is necessary over a long period of years.

The reaction to the intravenous administration is generally of little consequence; to the intraspinal it is more severe. This consists of pain in the back, legs and head. The headache like that resulting from spinal puncture alone, is apt to appear and recur when the head is raised. This is purely a mechanical affair, due to the disturbance of ventricular pressure and is self-limited, provided the patient remains flat in bed for twenty-four to forty-eight hours, or until all symptoms disappear. The administration of the arsenic is safe, so long as proper technique is followed and provided the patient's general physical condition is observed with as great care as it has been urged to use in regard to the other investigations.

The following case reports serve to bring out several points which need emphasis:

CASE 1. No. 563. Seen first, October 6, 1913. Male, 54 years of age. Syphilis twenty-four years previously. Tabetic symptoms 14 years' duration. Lancing pains, ataxia, difficulty in micturition. Knee-jerks absent. Marked ataxia, considerable Romberg. Remaining physical examination negative. Blood—Wassermann strongly positive. Spinal Fluid—Wassermann strongly positive; cells 150 per cmm. He re-

ceived six series of intravenous injections of salvarsan or diarsenol, twenty-five in all, and one series of mercurial injections and two of inunctions. At present the laboratory examination shows: Blood—Wassermann negative. Spinal Fluid—Wassermann doubtful; globulin negative; cells 6 per cmm.

This is a case of tabes of long standing. He has not been especially faithful to treatment, but has shown under the intravenous method marked improvement in all symptoms and a corresponding change in blood and spinal fluid.

CASE 2. No. 788. Seen first, April 25, 1915. Female, 34 years of age. Syphilis 18 years previously. Tabetic symptoms began one year ago. Ptosis, diplopia, ataxia, lancinating pains. Pupils regular, unequal and fixed. Marked ptosis of left lid. Knee jerks absent, slight ataxia, slight Romberg. Other physical signs negative. Patient had received six intravenous injections of salvarsan prior to my consultation and as the ptosis was becoming rapidly worse, she was placed on combined treatment. The laboratory findings were as follows: Blood—Wassermann strongly positive. Spinal Fluid—Wassermann strongly positive; cells 108 per cmm. She received six intraspinal injections of salvarsanized serum. This was followed by five courses of diarsenol intravenously, fifteen injections being given during this period. At present the laboratory findings are as follows: Blood—Wassermann negative. Spinal Fluid—Wassermann negative; cells 4 per cmm.

It is interesting to note in this case that the intensity of the Wassermann reaction in the spinal fluid responded first of all to the intraspinal treatment, that the cells followed later and that negative findings in the blood resulted only after the second attack by the intravenous route.

This is a case of tabes complicated by paralysis of the third nerve, the former probably of longer duration than the history indicates. Following combined treatment there was complete recovery of the third nerve; cessation from lancinating pains and marked improvement in ataxia. The symptomatic improvement corresponds to the changes in laboratory findings.

Here it might be well to mention the accentuation of focal symptoms during the treatment. The lancinating pains were much aggravated following the fifth intraspinal treatment. They have subsequently disappeared entirely.

CASE 3. No. 1147. Seen first, March 5, 1919. Male, 33 years of age. No history of syphilis. Tabetic symptoms discovered in army examination November, 1918. Since that time, lancinating pains and ataxia. Pupils unequal, re-

act to light sluggishly. Knee jerks absent, moderate ataxia, pronounced Romberg. Physical examination otherwise negative. Blood—Wassermann strongly positive. Spinal Fluid—Wassermann strongly positive; globulin moderately positive; cells 103 per cmm. Patient has received four series of diarsenol intravenously, twenty-one injections in all. In connection with these he received three series of mercurial injections, each covering a period of ten weeks. At that time symptoms had become aggravated to such an extent that intraspinal treatment was instituted. His first course has just been completed with slight evidence of symptomatic improvement. The last laboratory findings showed the following: Blood—Wassermann doubtful. Spinal Fluid—Wassermann strongly positive; cells 216 per cmm.

This is a case of tabes of undetermined duration. He has improved neither symptomatically nor is his laboratory findings under the intravenous method. The intraspinal method has been begun, but so far is unproductive of results. The outlook is doubtful, because the combined method has not been given sufficient trial.

CASE 4. No. 896. Seen first, March 7, 1916. Male, 58 years of age. Syphilis forty years previously. Tabetic symptoms nine years' duration. Lancinating pains, ataxia, difficulty with micturition. Pupils unequal, irregular, react sluggishly to light. Knee jerks absent, moderate ataxia, moderate Romberg. Physical examination otherwise negative, except easily palpable, smooth liver edge and marked bacilluria. Laboratory findings were as follows: Blood—Wassermann strongly positive. Spinal Fluid—Wassermann strongly positive; cells 141 cmm. He received eight courses of salvarsan or diarsenol, 41 intravenous injections being given in all. At present the laboratory examination shows: Blood—Wassermann negative. Spinal Fluid—Wassermann negative; globulin negative; cells 6 per cmm.

The changes in the spinal fluid were very gradual, the intensity of the Wassermann reaction decreasing at the same time with the cells. The blood change was much more rapid than either. This is a case of tabes of long standing. He has been most faithful in pursuing treatment and he was followed conscientiously in regard to spinal fluid data. He has shown under the intravenous method marked symptomatic improvement, corresponding with the change in the blood and spinal fluid. He seems an arrested case.

CONCLUSIONS.

1. Neurosyphilis is the result of the primary invasion by the spirochete pallida. Changes in the spinal fluid, especially lymphocytosis, may be demonstrated before the appearance of physical signs of neurologic lesions.

2. Spinal puncture should be employed in all cases of syphilis, before they are discharged as cured. This procedure should be done at least six months after cessation of treatment.

3. Early diagnosis is most desirable and can be obtained not infrequently by spinal puncture only.

4. Changes in cytology in the fluid can be shown to disappear under ordinary treatment.

5. Many cases of established tabes and central nervous syphilis show improvement in symptoms and controlling laboratory findings under specific arsenical treatment.

6. The intravenous method is advised and should be rejected only when ineffectual after fair trial. In the latter instance combined treatment is employed.

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GRADED EFFORT IN CONVALESCENCE.

By HERBERT J. HALL, M.D., MARLBHEAD, MASS.

THE writer has in his possession a copy of a wash drawing by Whistler, showing a beautiful young woman reclining languidly on a silken couch and fingering a magazine. It is the artist's idealization of convalescence. There will be flowers, drives in the park, then life and full health. Those of us who know convalescence at first hand know that it is not always like that, not even among the well-to-do and the fortunate. And we know that with men and women who must work to live, convalescence may mean a terrible struggle against odds, with many final surrenders.

Since the war, medical men and people generally, have taken a new interest in the problem of human reconstruction. The situation is no worse than it always has been, but our sympathies have been touched, our imaginations aroused, and we now realize that we have left too many handicapped men and women to shift for themselves after the short period of acute illness.

Convalescence is, of course, a very general term; the period presents as many variations as there are patients and disabilities. A full consideration of convalescence would involve a study as wide as the field of medicine. For the purposes of this paper, I would discard the endless variations and come down to the bare fact of physical and psychic weakness, the functional unresponsiveness and overwhelming fatigue which follows any severe illness. This great common factor we may deal with directly and positively. We cannot in practice avoid

the consideration and treatment of a thousand and one details and complications, but we shall be wonderfully aided in our management of convalescence if we are able to think of general disability and helplessness as in a sense a separate problem.

Without going deeply into psychology or physiology, we know well enough that the best way to restore lost or impaired function is by use. Rest must play its part, the exercise must be judicious, of course, but a man does not walk without using the muscles of his legs, he does not progress much toward general effectiveness without voluntary effort. We can supply some of the necessary activity through the various forms of physiotherapy, but in the end the patient must use his own strength if he is to be well, if he is to become once more independent.

This is the principle of occupational therapy, the art of applied work supplementing the older idea of physical exercise. It is physical exercise, but because it uses several functions at once it develops the indefinable quality we call efficiency. The ability to accomplish definite and prescribed tasks without fatigue, becomes a reasonably exact gauge of convalescent progress.

Doubtless the natural tendency of the disabled organism is automatically to resume exercise and effort after the shock of injury and the immediate effects of illness have passed. But there are many pitfalls in the way, sheer weakness, impaired nutrition, discouragement—we shall often be called upon to furnish the incentive and initiative. Very often we must stand by during the whole of convalescence lest the patient give up altogether and go drifting back into utter helplessness. The "standing by" may well mean more than cheerful encouragement, more than medical and surgical treatment; it must often include detailed instructions and a full program of progression.

If we were not dealing with discouragement and the inertia that comes of long illness, our principle might proceed uninterrupted and well even in the face of crippling injury. But in practice, all the tact and skill available from experience is often necessary to make the start and to maintain progress. We have constantly before us the blocking influence of fatigue and discouragement. But we have to aid us the fact that exercise and improvement of one function is bound to stimulate and develop all the others. Thus it happens that the successful use of the fingers in some simple piece of knitting, the primitive exercise of one set of muscles, will send a current of life into every other part, may stimulate the will itself to further reconstructive effort. The occupational therapy, as well as the physiotherapy aide, must always assume that fatigue and discouragement stand squarely across the path, fatigue of muscles and of the will. Any attempt to force the

issue and to hurry the patient on to recovery may result in complete deadlock and even serious retrogression. Fatigue is psychological as well as physiological. Just as normal muscles may tire and finally cease to respond even to electrical stimulation, so the will ceases to operate and must be given rest before progress can be made. Every time we go on until the fatigue limit is reached, we must wait a disproportionately long time for recuperation. Experience teaches that this is true to some extent whether we are at work far down the scale, at the very beginnings of effort or further along where the work prescription is complex and comprehensive.

In the interests of progress, then, it is evident that we must plan a graded system which will avoid discouraging setbacks and provide an uninterrupted sequence. In my own practice, which has been, of late years, almost wholly among convalescents, or at least in the treatment of continued illness, I have long since ceased to expect a little more of the patient each day. It is easy to fall into this error, but the consequences may be disastrous. A little more work, a little more effort each day, too soon reaches the limit of physical or psychic fatigue. It is far wiser to allow only the same degree of effort each day for some time before adding to the requirement. Progression of this kind may be represented by a series of planes or ramps. The other kind, the dangerous sort, is more like a flight of steps. The former system will lead us far if it is gradual enough; the latter frequently brings about collapse and failure.

Fortunately, it does not matter much what the effort is so long as it enlists the interest of the patient and lends itself to such a graded arrangement. Since physical work is the most easily available and possesses the merit of easy flexibility, we have chosen the handicrafts as our allies in occupational therapy. In the beginning and for the same reason that we use light work, we must choose simple processes and a type of work that shows quick and pleasing results. The early convalescent will soon be discouraged if we start him on some difficult and exacting problem; a problem requiring much patience and practice for its accomplishment. The first tasks should be possible for the patient while he is still in bed. But we must not make the mistake of keeping him too long upon the childish things. A progress too slow and one requiring too little effort is just as harmful as a too rapid or too difficult procedure.

I like to think of the handicrafts which we use in occupational therapy as equivalents. We may well make them worth while in themselves but, after all, it is strength, patience and initiative which we are trying to develop. When the patient can work at hand weaving or basketry steadily and for hours with interest

and without fatigue, when he begins to take real pride in his work, we may be sure that he is equal to the equivalent expenditure of effort in other more vital matters of life. We may have produced an expert hand weaver and that is well, but if we have at the same time restored a housewife to her old effectiveness, that is better.

For reasons of clearness and illustration, I have dwelt upon the difficulties of extreme cases in which the start must be made with the utmost caution. Many a convalescent has never reached the low levels and yet does not get over the last rise to efficient life unless some therapeutic occupation is prescribed and carried out. The choice of occupations and the degree of effort involved must often be somewhat arbitrary. Sometimes after long continued idleness of convalescence it is only necessary to arouse the interest of the patient in a novel exercise of his faculties through prescribed work. The progression may be left to itself. But such a situation is rare. I cannot emphasize too strongly the wisdom of careful and progressive prescription. Enthusiasm too often wrecks the course of occupational therapy, enthusiasm with the sudden reaction of fatigue and ennui. Almost never would I say to a patient recovering from any illness, "How would you like to go into the shop and work for a while with the others?" That would be too much like saying, "Wouldn't you like to take some medicine? There is quite an assortment in the dispensary, go in and make your choice; take as much as you like." No,—work as remedy is too valuable to be turned into a diversion. Diversion it often is, and happily so, but that is the least of its attributes.

We cannot long consider the value of work as a remedy without making some estimates of rest and play in their relation to convalescence. Here I think the same principle of dosage holds. Left to himself, the patient almost never makes a wise division of his time. Too often we say to the convalescent, "Now you are better, walk a little, play a little, rest as much as you need." He does not know how much rest he needs. If he is ambitious, he will overdo the play or the work. If he is timid or easily tired, the chances are he will rest altogether too much, perhaps retarding recovery indefinitely. The rest should be measured and the play should be measured until all need of caution and reserve is past, until the patient is fully restored.

I have rarely had a patient who was not grateful for a careful regulation of his day. It is an immense relief to the average convalescent to be told exactly what to do and when. One of the most fatiguing and demoralizing elements of convalescence is uncertainty. The patient does not know, is not sure what he may wisely do. A series of

plunges of more or less haphazard efforts with accompanying failure and fatigue, will not infrequently result in a loss of self-confidence which is very hard to restore.

It will be well, then, if we take the period of convalescence more seriously than has been our habit, if we leave as little as possible to chance or the judgment of the patient. We shall not always be able to restore efficiency and normality in the victim of disease or of accident. Many permanent handicaps must remain, but we have at our disposal a very rational and potent system of reconstruction in prescribed work. By the graded effort which we demand of our helpless patients we may often restore functions which might otherwise have been lost forever. We must remember that this powerful expedient can do harm as well as good, that it may discourage as well as stimulate and develop. Nothing but experience can teach us when and how to begin with the individual patient, or how rapid a progression of effort may wisely be used. It is safer to be well under the maximum load than even near it.

We have now at our disposal for hospital and sanatorium auxiliary the so-called occupational aide, a type of social worker, whose increasing experience with different kinds of disability fits her to deal with this problem of work as a remedy. These aides will become more valuable as time goes on, but the doctor himself must learn to direct them intelligently if we are to have the full benefit of a great principle which we have ignored or neglected too long.

Occupational therapy is not a cure-all, but it has a definite and important place in the field of modern medicine. We can no longer afford to turn loose our convalescents of any sort without at least a testing out of their resistance to the demands of life. There is no better method, no more practical way of making such a test than through the graded efforts of prescribed work.

The lady of Whistler's picture is charming. I would not disturb her serenity, but I wish that some great artist would paint the occupational aide patiently guiding the slowly moving fingers of some battered industrial soldier or some nerve-racked woman through the intricacies of an unfamiliar task—the look of pathetic relief on the face of the patient who discovers that after all there is hope in life, some chance of ultimate recovery.

IMPORTANT NOTICE.

Announcement of meetings to be held on and after next Thursday should reach the desk of the Editor of the JOURNAL not later than next Saturday before noon. The printers do not work Saturday afternoon and the material is locked up in the forms on Monday, and goes to press Tuesday morning. The wrapping and mailing begins Wednesday. Please forward copy early.

OBSERVATIONS ON THE EFFECT OF *B. ACIDOPHILUS* MILK UPON CASES OF CHRONIC CONSTIPATION.*

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THE milk feeding experiments presented in this paper were the direct outcome of the researches which have been conducted for several years at the Sheffield Scientific School, Yale University, on the implantation of *Bacillus acidophilus* within the intestinal tract of both the albino rat and man. The chief object of this investigation was to study the therapeutic value of the oral administration of *B. acidophilus* milk in cases of chronic constipation. It was anticipated, in conformity with the views of Rettger and Cheplin that the pure *B. acidophilus* milk culture, in virtue of the large number of viable organisms it contains, capable of implantation and colonization within the alimentary canal, might exert a beneficial influence in relieving obstinate and chronic constipation, if regularly supplied in sufficient quantities, depending upon the individual requirements of the patients.

Throughout the different series of experiments the plan of the investigation was essentially the same, and, but for certain minor details, was as follows:

The *B. acidophilus* was prepared in accordance with the method advocated by Cheplin and Rettger in 500 c.c. amounts, and living 24 hour cultures were administered daily to the patients. With but few exceptions 500 c.c. of the milk product reinforced with 100 grms. of lactose were ingested by the patients each day in two equal doses.

At no time during the investigation were any special or modified diets prescribed, and the sour milk was consumed regularly in addition to the ordinary daily dietary régime. It was definitely arranged that no cathartics or laxatives be taken by any patient throughout the entire experimental period. In the event of slow response, enemata, consisting of two parts of the *B. acidophilus* milk and one part of water, were resorted to and these were given in but two instances.

Bacteriological examinations of the stools were made daily and the method employed by Cheplin and Rettger was strictly adhered to.

* The authors wish to acknowledge here the courtesy of Dr. C. Floyd Hayland, who has granted valuable aid, and to thank Dr. Leo F. Rettger for his cooperation and advice. We are also indebted to Mr. W. P. Gray for his help in conducting the laboratory work in connection with this problem.

This investigation was conducted at the Connecticut State Hospital in cooperation with the Department of Bacteriology of Yale University.

The routine fecal examinations were conducted for the purpose of ascertaining the progress in the transformation of the intestinal flora from the ordinary mixed type to one dominated by *B. acidophilus* and to establish, if possible, a correlation between the simplified aciduric flora and the allaying of constipation.

RESULTS OF THE *B. ACIDOPHILUS* MILK FEEDING EXPERIMENTS.

Brief clinical histories of the eight cases which we report in this paper are given below together with the treatment and results.

CASE 1. History—White female, married, aged 32 years, employee of the Conn. State Hospital, who has been troubled with constipation continuously since childhood, requiring laxatives regularly. For the past five years has gone three or four days without bowel movements. Headaches two or three times a week which were relieved by cathartics. Frequently feels bloated and has a desire to stool, but bowels do not move. Dull and loggy once or twice a week which interferes with her ability to work, often feeling nervous and apprehensive.

Treatment—500 c.c. of *B. acidophilus* milk reinforced with 100 grms. of lactose daily. Taken in two doses—250 c.c. A.M. and P.M. Patient under treatment 67 days.

Result—Patient responded immediately, having one movement on each of the first and second days and from then on until end of the treatment patient had at least one, not infrequently two and on several occasions three movements per day. During the first month, headache, bloated feeling and distress disappeared. Bowel movements were satisfactory without the use of laxatives or cathartics. Six weeks after discontinuance of the oral administration of the *B. acidophilus* milk patient reports satisfactory bowel movements without purgatives.

CASE 2. History—White female, aged 27 years, married, employee of Conn. State Hospital, who as a child, had measles, but had always been well. For the past two or three years has been constipated (taking five "phenolax" tablets nightly during the last year and a half, this resulting in only one bowel movement daily).

Treatment—500 c.c. of *B. acidophilus* milk reinforced with 100 grms. of lactose administered daily, in 250 c.c. doses A.M. and P.M. Patient under treatment 56 days.

Result—During the first six days had only two movements which occurred on the second and third days. From that time on the response was more pronounced having with few exceptions at least two and occasionally as many as three or four evacuations per day. During treatment patient claimed marked benefit.

CASE 3. History—White female, aged 44 years. Patient at the Conn. State Hospital. No serious illness as a child. Had a slight mental upset at the age of 18. For the past 12 years has been receiving gynecological treatment. In September 1918 was operated upon for retroversion of uterus which was apparently successful. Menopause during 1919. Eight months later she grew careless about the house, had daily nervous spells in which she would become depressed, cried without cause, ate and slept poorly. Gradually grew worse requiring commitment to the Conn. State Hospital.

Physical examination—Weight 101 lbs., slender, pale, anemic. Complained of headache, pain in side, vertigo, dyspnoea, anorexia, indigestion and constipation. During her stay at the hospital she has been restless, agitated and depressed, constantly complaining of persistent constipation and apparently receiving no benefit from the ordinary use of laxatives or purgatives.

Treatment—Daily oral administration of 500 c.c. of *B. acidophilus* milk to which 100 grms of lactose were added, milk being consumed in two equal doses A.M. and P.M. After three weeks twice the above quantity was administered. Treatment continued 111 days.

Result—Patient did not respond to the usual quantity of acidophilus milk within three weeks. Frequently three days would elapse without stools, necessitating use of enemata. Occasionally two bowel movements per day were recorded, but stools at best were small and desiccated. These unsatisfactory results led to the use of double the usual quantity of the milk and lactose with the effect that the movements became more frequent and regular, averaging at least one stool per day, occasionally two, and very rarely three. It must be noted, however, that in this case the physical appearance of these stools was not characteristic of the typical *B. acidophilus* stool. This unsatisfactory result may be attributed to the fact that at no time during the course of the experiment was this patient's intestinal flora completely dominated by the *B. acidophilus*.

CASE 4. History—White female, patient at the Conn. State Hospital, affected with a chronic psychosis. Constipated about one year, requiring cathartics twice a week.

Treatment—Consisted of daily administration A.M. and P.M. of 250 c.c. of *B. acidophilus* milk reinforced with lactose. Treatment discontinued after 21 days.

Result—1st. and 2nd days, one stool each; two stools daily for next four days; three stools daily for next two days; one stool daily for next three days; two stools daily for next ten days, at which time treatment was discontinued. During the following six weeks patient

had bowel movements twice daily without the use of laxatives.

CASE 5. History—White female, aged 56 years, married, patient at Conn. State Hospital, —diagnosis—psychoneurosis, neurasthenic type. Since admission has complained of constipation, requiring laxatives three times each week.

Treatment—Ordinary quantity of *B. acidophilus* milk and lactose was administered daily for 85 days. On the evening previous to commencement of treatment the patient received 2 c.c. pills which resulted in six bowel movements the following day.

Result—Throughout the entire period of experiment this patient manifested a marked response, passing with but few exceptions two stools daily. Typical *B. acidophilus* stools were obtained, being soft in consistency and of a light yellow color.

CASE 6. History—White female, married, aged 30 years. State Hospital employee. Typhoid fever at 13, following which she has always been constipated. At 20 the condition became chronic. Since that time would frequently go several days without defecation, and has been a constant user of various cathartics which gradually became ineffective. There have been times when the patient actually fainted because of pain at straining of stools.

Treatment—Began with the usual quantity of *B. acidophilus* milk and lactose taken, however, irregularly because of occupation. Treatment continued for 40 days. Three weeks after the initial administration of the milk the dosage was increased to 1000 c.c. plus 200 grms. of lactose daily.

Result—The response was rather unsatisfactory during the first three weeks, requiring frequent enemata of *B. acidophilus* milk. The poor effect of the above mentioned quantity led to increased dosage, following which the stools were more regular, patient having most of the time one movement per day and occasionally two. In spite of the short period of treatment patient showed a gain of 20 lbs. in weight. Report one month later said that bowel movements have continued fairly regular without cathartics.

CASE 7. History—White male, married, age 40 years. Employee at the Conn. State Hospital, who for the past two or three years has been complaining of constipation, requiring laxatives about twice every week.

Treatment—Consumed daily 500 c.c. of *B. acidophilus* milk in addition to 100 grms. of lactose. Within three weeks the quantity was doubled. Throughout the entire period of 50 days the milk was taken in two doses daily. During the first three weeks the effect was unsatisfactory, the bowel movements being irregular, stools were small and desiccated. Upon administering larger quantities better effect was noticeable. Daily bowel movements oc-

curred and there was an increase of 25 lbs. in body weight. Patient reports a continuance of satisfactory bowel movements after the removal of the *B. acidophilus* milk.

CASE 8. History—White female, aged 36, a patient at the Conn. State Hospital, who since admission has complained of indigestion and constipation. She received but temporary relief from cathartics which had been used at least twice each week over a period of many months.

Treatment—The night previous to the first treatment 2 c.c. pills were given. During the course of treatment with the *B. acidophilus* milk no further laxatives were used. 500 c.c. of milk containing 100 grms. of lactose were given in two doses daily, 250 c.c. A.M. and P.M. Treatment continued 58 days.

Result—The response was prompt. Six bowel movements occurred during the first and second days which may be attributed in part to the purgatives given previous to the *B. acidophilus* milk. During the next three days, there was but one stool. From then on until the end of treatment period there were usually two, frequently three and occasionally four bowel movements per day. Bowels continued to move freely without the use of cathartics for several weeks after treatment was discontinued.

GENERAL CONCLUSIONS.

Throughout the investigation upon which this short paper is based the favorable effects of the *B. acidophilus* lactose milk feeding on chronic constipation is quite apparent. In most of the cases the response was prompt and daily evacuations were recorded. Although in some cases the influence of the ingestion of the *B. acidophilus* milk in 500 c.c. quantities was less pronounced at the start, quite an appreciable difference in the effect on the bowel movements was noted when the amounts of the *B. acidophilus* milk and added lactose were doubled.

The *B. acidophilus* lactose milk diet exerts a beneficial influence in regulating the fecal eliminations from the bowel and in changing the character of the intestinal flora. Within a few days after the ingestion of the sour milk and added lactose, daily stools are obtained and a transformation of the flora takes place in which the usual mixed bacterial types give way to a more simplified flora largely represented by *B. acidophilus*. It is to be assumed that the *B. acidophilus* milk has this influence in virtue of the large number of viable organisms which it contains and of the lactose present. This view is strongly supported by the extensive feeding experiments on clinical cases conducted by Cheplin and Rettger in which similar results were observed.

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MEASLES, THE STUDY OF AN EPIDEMIC IN THE CITY OF WATERTOWN, N. Y.

By ISAAC W. BREWER, M.D., WATERTOWN, N. Y.,
Health Officer.

At the meeting of the American Public Health Association in 1917 I read a paper on the control of measles in a military camp, but from the number of persons who were present and from the remarks which were made at the conclusion of the paper it would seem that the average health officer is not particularly interested in measles. However, when we consider that in the year 1919 there were 404,548 cases of the disease reported to the Public Health Service, which makes a case rate of 5.2 per thousand, the importance of the disease is apparent.

Watertown, N. Y., like most other northern cities, has epidemics of measles at frequent intervals, as will be shown by the following table:

YEAR	NO. OF CASES OF MEASLES	NO. OF SCHOOL CHILDREN	PERCENTAGE OF SCHOOL CHILDREN ATTACKED	DEATHS
1916	829	5,646	14.7	6
1917	212	5,990	3.6	0
1918	739	6,216	11.8	7
1919	10	6,350	0.1	0
1920	43	6,306	0.6	0
1921	1,218	6,599	18.5	12

From the above it is apparent that the epidemics of 1916 and 1917 did not include all the non-immunes in the city, and on the other hand the epidemic of 1918 apparently included most of the susceptible children in the community.

The epidemic of 1921 began in January, the first case having been infected during a visit in a neighboring city where the disease was prevalent. Up to the time of this compilation 1,218 cases had been reported to the Department of Health. At first the disease was confined to one school district and the department endeavored to search out incipient cases and exclude them from school before the infection had spread to other children. This proved to be impossible without the hearty coöperation of

the families, which we did not have; and soon the disease became epidemic in all parts of the city. The maximum was reached in the early part of May. The epidemic of this year began earlier than those of previous years and developed much more quickly and lasted longer. This is, without doubt, due to the larger number of susceptible persons in the community.

As regards age, we found that there were but two cases of three months or under. In the pre-school period we had 48.6% of the cases, while 49.7% were of school age and 1.7% were over 20 years of age.

With a view of determining what might be done by early isolation of cases before the rash appeared, we determined, as far as the data available would allow, the interval between the appearance of the catarrhal symptoms, as observed by the family, and the rash which is the diagnostic symptom with the public. In 38.1% the interval was one day; in 25.7% it was two days, and in 10.6% it was three days. This means that in 74.4% of the cases it might have been possible to have isolated the patient before the rash appeared. Possibly had the family taken the temperature of the child daily or known Koplik spots when seen, the isolation could have begun before there was any spread of the disease.

As a rule, when measles is introduced into a house, all those who are not immune by a previous attack are taken sick. In one or two instances children without a history of a previous attack escaped, although exposed.

Epidemics of measles in Watertown usually begin in January or February and reach their maximum in April or May and then rapidly subside, usually burning themselves out before school closes in June. The measles of 1921 followed the usual course. We are of the opinion that the outdoor life which begins in this community in June has much to do with the disappearance of the disease.

The period of incubation has a direct bearing upon the measures taken for the prevention of the disease. In a previous epidemic where the source of infection was known to be a common drinking cup, I found that the first cases began to come down with the disease on the eighth day. In the present epidemic this matter was considered and the interval between the primary case and the secondary case among children of four years or under was determined. Seventy per cent. of the cases came down between the seventh and twelfth days.

This epidemic brings out two questions. First, Why did not the disease become epidemic in 1920 when fresh importations were frequently brought from a nearby city where a most serious epidemic prevailed? Secondly, Are the present methods of administrative control effective?

In answer to the first question, we studied all of the cases of the year 1920 and found that nine were primary cases which developed from infections outside the city; seven were secondary cases, and twenty-seven apparently developed in the city from sources unknown. Of these cases, only ten were in attendance at school at the time attacked, but no two came from the same schoolroom. We find, however, that one case developed in the school where the 1921 epidemic started. We are unable to answer the question as to whether the few cases of 1920 became carriers and paved the way for the serious epidemic of the present year. Nor are we able to say whether the virus introduced in 1920 was of a low grade of virulence. In the community from which it came the reverse was the case.

The answer to the second question is in the negative. There is grave doubt if the measures usually adopted for the prevention of measles are anything but a public nuisance. Chapin says, "Measles is a disease which, in cities, it seems to be impossible to check to any appreciable extent by isolation." * * * No amount of isolation after the disease is recognized can atone for the harm done before the diagnosis is made." With him most persons will agree, and yet the serious after-results of the disease demand that something must be done. Until such time as a satisfactory vaccine is developed and the public educated to its use, the crux of the situation is the control of the "common cold." Infectious and with the preliminary symptoms of many diseases, we allow the infected person to wander at will, infecting all with whom he or she comes in contact. The isolation of "colds" will, without doubt, prevent measles and whooping cough, and will also be the means of bringing many cases of tuberculosis under treatment at a time when they have a good prospect of being cured. The medical officers of the army concluded that the serious epidemics of pneumonia in 1917 were largely due to the transfer of infection from one person to another by coughing.

The public will not take kindly to this proposition unless we expend a considerable amount of energy on their education, but the result will surely repay us. The children in this city lost not less than 30 school years during the recent epidemic. So great a loss must very appreciably slow down the progress of all the school children, and is very costly in the long run.

SOCIETY NOTICE.

MIDDLESEX SOUTH, NORFOLK AND NORFOLK SOUTH DISTRICT MEDICAL SOCIETIES will hold a combined meeting at Tufts College Medical School, Tuesday evening, November 29, at 8 P. M. Speakers will be Dr. John W. Bartol, President of the Massachusetts Medical Society, Dr. Charles E. Mongan and Dr. Arthur N. Broughton. Collation after the meeting.

Book Reviews.

Medical Record Visiting List for 1922. New York: William Wood & Co.

This compilation of dates useful to physicians, together with all needful space for the record of the business and memoranda which a busy practitioner needs to have at hand, is ready for 1922.

The book is of convenient size for the bag or pocket and in addition to the usual tables of weights, measures and obstetric dates, has about all the technical information about drugs and emergencies which one needs to have immediately available when textbooks are not at hand.

Psychology and Psychotherapy. By WILLIAM BROWN, M.A., M.D. (Oxon.), D.Sc. (Lond.). London: Edward Arnold; New York: Longmans, Green and Company. 1921.

This monograph is essentially a product of the late war, which stimulated interest in the treatment of functional psychoses developed by war conditions. In his foreword, Dr. William Aldren Turner indicates that the work is concerned with the psychological factors underlying those forms of nervous reaction which form the borderline disorders known as hysteria, neurasthenia, psychosthenia and the compulsion neuroses. The author undertakes, not to give the clinical pictures of these conditions, but rather the psychological mechanism of their causation and the principles concerned in their treatment by psychotherapy. Dr. Brown devotes considerable space to the doctrine of psychoanalysis, and though he does not accept Freud's views in their entirety, recognizes the method of free association as of the utmost value. The book closes with a significant chapter on the relation of mind to brain, hypnotism and psychical research, and the survival of bodily death. It is a useful and conservative contribution to the convenient literature of a relatively recent and important subject.

French-English Medical Dictionary. By ALFRED GORDON, A.M., M.D. (Paris). Philadelphia: P. Blakiston's Son and Company. 1921.

This compendious dictionary should be of value to those who need such assistance in reading current French medical literature. It includes about 7500 words, and has a useful table of equivalents between metric and English weights and measures. All keys to French

pronunciation are fallacious, but that which accompanies this work is as good as can be found. The volume may be confidently recommended for accuracy and brevity of definitions.

What to Do in Cases of Poisoning. By WILLIAM MURRELL, M.D., F.R.C.P. 12th Edition. Revised by P. HAMILL, M.D., D.Sc., F.R.C.P. 1921. New York: Paul Hoeber.

This excellent and practical little book by Murrell, now appears as the 12th edition. It has been revised and brought up to date by Hamill, the pharmacologist at St. Bartholomew's Hospital. A number of the newer drugs, such as barbitol ("veronal"), acetyl-salicylic acid ("aspirin"), etc., some of which have acquired considerable importance in toxicology, are included. American readers will miss a few poisons of much importance in this country, such as methyl alcohol, poison ivy and water hemlock (*cicuta virosa*, etc., from the eating of which there are usually a few fatalities in New England each spring). But the more important poisons (morphine, strychnine, phenol, the cyanids, arsenic, etc., etc.) are clearly but briefly discussed. There is also included a list of the "patent" medicines, vermin killers, disinfectants, etc., which are frequently the cause of poisoning; here again the American reader will miss information in regard to some of the widely used, and misused, preparations of this class; but on the whole, there is much similarity between such preparations in England and the United States.

The poisons are arranged alphabetically and the discussion of each, which seldom exceeds two or three small pages, is arranged under such headings as, "How Taken," "Symptoms," "Fatal Dose," "Treatment," etc. There are also introductory notes on the classification of poisons, diagnosis and general treatment of cases, the "antidote case," etc.

It is a small and inexpensive book, and contains little that may not be of value to a physician; it can be highly recommended to physicians and students.

The New Pocket Medical Formulary. By WILLIAM EDWARD FITCH, M.D. Philadelphia: F. A. Davis Co., publishers. Third Edition, 470 pp. Price \$2.50 net.

The first 351 pages of this little book contain an alphabetical list of diseases and pathological conditions; after each of these are given from one to twenty formulae appropriate for the treatment thereof. In most instances the authority from which the prescription was derived is mentioned. Although a number of the

formulae impress us as being of the extremely empirical type, with very little foundation in real therapeutics, this section of the book is likely to prove helpful if used with discrimination.

Following the formulary are a few pages of doses for hypodermic medication; after that, a number of formulae for liquid foods and diet lists for some 17 conditions. There is a differential chart of the eruptive contagious diseases and a table of differential diagnoses which might be convenient in case one wished to refresh his memory in regard to some unfamiliar disease. There are tables of dosage, weights and measures, duration of pregnancy, treatment of fractures, ligation of arteries, poisons and antidotes and incompatibilities. The book is a handy one to have about, and would be a comfort if one were put face to face with an unfamiliar emergency. It seems to be reliable and is certainly well arranged.

The Diagnosis and Treatment of Intussusception. By CHARLES P. B. CLUBBE, L.R.C.P., M.R.C.S. Second Edition. London: Henry Frowde and Hodder & Stoughton. 1921.

This revised edition of Clubbe's little book gives a very thorough yet concise discussion of intussusception. After an introductory history of the subject come the statistics of his 270 cases and a review of the anatomy, pathology and etiology. The symptoms and diagnosis are carefully considered. Especial stress is placed on the necessity of immediate diagnosis. More attention should be given to the history of sudden onset with screaming, pallor and vomiting. The child may appear quite well when seen by the physician within the first twelve hours, though the onset is typical. In nearly all cases blood is passed within ten hours. Careful examination, sometimes under an anesthetic, enabled the author to detect a tumor in all but three of his cases.

The treatment of intussusception is immediate laparotomy, although some cases can be reduced by irrigation or inflation. Reduction is accomplished by squeezing from below upwards, traction being only rarely used as an accessory when the mass cannot be returned beyond the caecum. If the intussusception is irreducible or gangrenous, it is necessary either to resect it or do a simple lateral anastomosis, preferably the former.

The book is concluded with a discussion of the after-treatment, and the appendices contain synopses of case histories.

Although offering no really new contribution to our present knowledge, this edition gives a complete though brief review of the subject from the viewpoint of one who has had a remarkably large experience.

Current Literature Department.

ABSTRACTORS.

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THE PRACTICAL APPLICATION OF THE SPHERE GAP TO THE ROENTGENOTHERAPY.

H. J. ULLMAN (*Am. Jour. Rönt.*, 8,195, April, 1921) states that in order to duplicate results in x-ray therapy it is necessary to have accurate measurement examining the physical factors involved. The chief cause of error in x-ray measurements today is the measurement of the voltage. Electrical engineers have long maintained that the sphere-gap is the easiest and most accurate method of measuring high voltage, whereas the average x-ray therapist has been accustomed to use the spark gap between points. The author using the standard unit for deep therapy as 8" of spark gap between points shows that with different machines there may be a variation of 30 to 77 per cent. as measured by the sphere-gap and points out that the dose which would be safe on one machine using the point spark gap method of measurement might be dangerous when applied to another machine, using the same measurements and that this error may account for the inability to duplicate x-ray results.

[H. A. O.]

SELECTIVE ORGAN STIMULATION BY ROENTGEN RAYS: ENZYME MOBILIZATION.

WILLIAM F. PETERSEN AND CLARENCE SÆLHOFF (*Am. Jour. Roentgenol.*, 8,175, April, 1921). The authors experimenting on dogs and using a technique consisting of Coolidge tube radiation, 5 to 8 inch spark, 10 inch distance, 8 ma., 4 mm. aluminum filter and exposure time varying from 5 to 20 minutes showed that considerable alterations in the serum enzymes titer, depending on the area rayed and the duration of exposure, could be produced.

A 20-minute exposure of the liver produced a nitrogen excretion averaging an increase of approximately 60 per cent. for a period of four days. Following the raying of the liver there was a transient leukocytosis. Raying of the intestinal area produced a step-like increase of the leukocytes, whereas raying of the spleen did not materially alter the count. Leukopenia was not observed in the animals with the dose used. Raying of the hepatic area showed in the differential count well marked eosinophilia ranging from 5 to 50 per cent. and persisting for several days. Raying of the intestinal and splenic areas showed diminution in the mononuclear forms and a relative increase in the polymorphonuclear.

Blood coagulation time was markedly reduced regardless of the area rayed. Raying of the hepatic area showed an increase in the serum proteases, and protease appeared in the serum after raying the intestinal area. Raying of the spleen diminished the titer. Peptidase was observed after raying the liver and to a lesser extent after raying the intestinal area but did not appear after raying the spleen. Lipase was mobilized with moderate doses over the hepatic and intestinal areas. Diastase was increased by raying the hepatic area, not increased by raying the intestinal area and decreased by raying the spleen.

The complement titer was unaffected by the dosage employed. The authors believe that these results have a special significance in the study of intoxications produced by x-rays and has some relation to the remote therapeutic effects occasionally observed. If pathological lesions are influenced by the serum enzymes, the authors believe that through x-ray stimulation a new means of therapeutic control is offered. [H. A. O.]

VARIATIONS IN SUGAR TOLERANCE AT DIFFERENT AGES.

SPENCE (*Quarterly Journal of Medicine*, July, 1921) has investigated the sugar tolerance curves of normal subjects in childhood and old age, and presents some interesting findings. In infants under twelve months of age the response to sugar feeding was markedly less than in adults, the average rise being only to .118 per cent. The fasting level was the same as in adults, and the fall to the fasting level was complete in one and one-half hours. With advancing age the response became greater, and in children over three years of age was the same as in the adult.

In old age, in four out of five subjects, there was a prolonged hyperglycemia, intermediate in degree between the diabetic curve and that of the healthy young adult. In three of them the fasting level was also above the normal, while two convalescents on a restricted diet showed normal fasting figures.

The author suggests the possibility that some of the instances of decreased tolerance observed by others in cancer and chronic nephritis may be simply a phenomenon of old age. [W. T.]

THE METABOLISM OF CALCIUM AND RICKETS.

FINDLAY, NOEL, PATON AND SHARPE (*Quarterly Journal of Medicine*, July, 1921) report an extensive study into the relationship of calcium to rickets. They analyzed the tissues other than bone, and the blood in experimental rickets of dogs, and found a normal amount of calcium. They point out that the feeding of a calcium low diet to animals produces a condition that somewhat simulates rickets, but lacks the characteristic histological features of that disease. The conclusion is that rickets is not due to a deficient supply of calcium to the bone.

They next proceeded to investigate the calcium balance in healthy and in rachitic children. In young children calcium is excreted almost exclusively by way of the intestine. The authors found that the percentage of calcium in the dried feces is fairly constant, so that the total daily amount varies with the weight of the stool, which is subject to wide variations. It follows that the short periods of three days used by many previous workers are of little value. A large amount of work by the authors showed that the utilization (the difference between the intake and the output in the feces) of calcium in health and in rickets is fairly proportionate to the intake. The percentage utilization, both in health and in rickets, was found to increase with age up to thirteen years, but since the excretion by the urine also increases, this does not necessarily mean increased retention.

In rickets the utilization and retention of calcium were found to be below normal in some cases, while in others they were above normal. It is believed that the former were in a progressive stage of the disease, and that the latter were in the period of recovery.

The authors believe that the evidence to date is not in favor of an error in the calcium metabolism as the primary factor in the etiology of rickets. [W. T.]

THE LAW OF CARDIAC MUSCLE.

LEWIS (*Quarterly Journal of Medicine*, July, 1921) divides the muscle fibers of the heart into four groups, viz., (1) Purkinje fibers; (2) auricular; (3) ventricular; and (4) nodal fibers. These four groups differ both as to size and glycogen content, both being greatest in group 1 and diminished progressively in the order named, the nodal fibers being the smallest and having the least glycogen. Now it has been found that the rates of conduction of the four groups also vary in the order named, being highest at 4000 mm. per second in the Purkinje fibers and lowest in the nodal fibers at 200 mm. per second. On the basis of these facts, and in accordance with the law that function varies with structure, Lewis proposes the following "law of cardiac muscle." "The fundamental properties of muscle will be found to vary in their degree into four types of cardiac fiber; if for any two types we can obtain a measure, then within reasonable limits we may predict the degree for the remaining two types by placing all four in their natural order."

On the basis of this law he proceeds to consider the phenomenon of 2:1 response of the auricle when stimulated electrically at excessive rates. If the auricle is stimulated at increasing rates the time arrives when it responds only to alternate stimuli. This is due to alternate impulse falling in the auricle when it is still in the refractory phase. The lowest rate at which stimulation results in the 2:1 response may be taken as an indication of the length of the refractory stage. The refractory period of the ventricle is known to be longer than that of the auricle. Applying the law of cardiac muscle, it might be predicted that the refractory period of the a-v. node would be yet longer. This when tested experimentally by Lewis proved to be the case, the critical rate for the a-v. node being lower than that of the auricle, while that for the ventricle is intermediate.

The author then proceeds to discuss the relationship between alterations of conductivity and of excitability, and shows that the known alterations of transmissions time may be explained on the basis of alteration of excitability. He concludes that there is as yet no proof of the independence of these two functions. [W. T.]

PLEURISY.

HALE-WHITE (*The Practitioner*, July, 1921), discussing the general subject of pleurisy, presents various illustrated cases and goes over this subject from the clinical standpoint.

He makes the statement that bloody fluid may be due to tuberculosis as well as new growth. This is comparatively a rare phenomenon in this country at least. He does not discuss, however, the relationship of dry pleurisy to tuberculosis, if any, or call attention to the significance of a wet pleurisy to an underlying tuberculosis nor does he mention the effect of the late influenza epidemic in regard to pleurisy in general.

The greater part of the article is devoted to the diagnosis and treatment of empyema. [J. B. H.]

CHRONIC ARSENIC POISONING.

STOCKMAN (*Edinburgh Med. Jour.*, July, 1921) in a long, well illustrated article discusses the general subject of chronic arsenic poisoning which he sums up as follows:

1. If Cloetta's observation is correct, that solid arsenious acid ceases to be absorbed from the bowel except in very minute quantity after it has been administered per os for some time, it must lose a great deal at least of its action as a result

of prolonged therapeutical administration. There are no experiments of the same kind on the lower animals regarding the absorption of liquor arsenicallis or other soluble preparations, but the cases recorded by Hesch and many therapeutical experiences show very conclusively that large amounts of liquor arsenicallis can be safely tolerated. It is very desirable in the interests of patients who have to take arsenic for long periods, that the whole question of tolerance, and of absorption or non-absorption from the bowel, should be put on a much more certain basis than it is on at present.

2. The administration of arsenic compounds may be safely continued for a considerable period after pigmentation of the skin and keratosis have developed. If slight, these clear off rapidly after the administration is stopped, and seem to leave no ill effects. Very deep pigmentation may be permanent, and in a few cases the development of cancer has been noted, apparently following upon local irritation.

3. On the other hand its administration should be stopped at once as soon as the slightest signs of neuritis appear. The lesion is always tedious and troublesome to get rid of, and in some cases is permanent. [J. B. H.]

TREATMENT BY X-RAY AND RADIUM.

KNOX (*Edinburgh Med. Jour.*, June, 1921) in a long continued article discusses the general subject of x-ray and radium treatment and summarizes his ideas on this subject in the following way:

It follows from what has been said that in x-rays and radium we possess most useful agents, and that extensive use should be made of these in the treatment of a large number of diseases. The value of such treatment will depend upon several factors.

(1) The time at which it should be administered.
(2) The nature and extent of the disease.
(3) The response the tissues possess to stimulation. Many patients are reduced to the last point of resistance before they are treated. These cases fail to respond.

(4) The dosage, which may be

(a) Massive at one sitting or divided over several days.

(b) Intermittent, large doses being given at intervals of from one to six weeks.

The malignant cases give the least favorable results. The earlier a case can be treated the greater is the chance of a successful result. Surgery offers in nearly all cases a better prospect than radiation treatment, so it should be given the first place, and radiation should be used after operation in the hope that recurrence may be delayed or prevented. Combined treatment should be more successful than either alone.

There are conditions of malignant disease in which surgery may not offer any better prospect than radiation, and in these it should be our aim to give the very best treatment in the hope of helping the patient. Radiations must be very thoroughly administered. In malignant disease of the thyroid, for example, it may be possible to do as much with radiation as by surgical operation. Large tumors of a low degree of malignancy may be diminished in size and their progress delayed. [J. B. H.]

ACUTE INTESTINAL OBSTRUCTION.

FLINT, E. R. (*British Med. Jour.*, May 21, 1921) summarizes a series of 282 cases of acute intestinal obstruction. The mortality of his series was 15.6. 38% of his deaths were due to intussusception and 25% due to bands and adhesions. He discusses the treatment of these particular cases and surgical treatment in general. [J. B. H.]

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HARVARD GRADUATES AND THE NATIONAL BOARD EXAMINATIONS.

It may be recalled that the examinations of the National Board of Medical Examiners were originated for the purpose of establishing national standards for the practice of medicine, standards so high that the individual states and other bodies holding medical examinations would accept the results. In this way it was hoped that the inconveniences experienced by physicians moving from one state to another would be diminished. The standing which these examinations have already attained is shown by the fact that their results are accepted by the Army, Navy, and Public Health Service, by twenty states and, except for certain legal restrictions which will doubtless soon be removed, by eleven others, by the Mayo Foundation, the American College of Surgeons, and, after an unusually careful investigation of the methods pursued, by the Conjoint Examining Board of England and the Triplecote Qualification Board of Scotland.

Harvard graduates have appeared in eight of the eleven examinations which have been held and have made an excellent record: they have attained first place in three of the ten important subjects of the examinations, and second place in two others, a record only equalled by the graduates of one other school. First rank

was obtained in anatomy, biochemistry and pharmacology; in the latter their record is unique for they not only surpassed the graduates of all other schools but it is the only subject in which a Harvard man has never failed. (The graduates of the school ranking second made 20% failures.)

These examinations will probably increase in popularity among students for, by the new plan, the examinations in the preclinical subjects may be taken after two years, in the clinical subjects after four years of medical study, thus leaving only a final practical examination after the completion of the hospital service. Many students, especially those who study in a state other than that in which they intend to practice, will doubtless avail themselves of this opportunity. This and the fact that there is little likelihood of the present high standards ever being lowered will tend to increase the importance of these examinations and bring about what has long been regarded as very desirable, not only higher but more uniform standards for the practice of medicine in the United States. They will doubtless also react upon the courses of study in the medical schools and bring about higher standards for teaching. There has been such a widespread demand for an opportunity to take these examinations that the Board has arranged to hold them simultaneously in a number of cities; those for the New England district will be held in Boston.

A VEILED INSULT.

PHYSICIANS in Lynn, Mass., have received the following letter:

Dear Doctor:—

For more than forty years my family has been engaged in the manufacture of medicines in Lynn. Those of us who have been responsible for the business take a great deal of pride in our methods of manufacture and in the success which we have attained.

It is our custom once a month to hold open house, and on these occasions hundreds of citizens from this vicinity have enjoyed our hospitality.

On November sixteenth, from two until five o'clock, we propose to keep open house for the entertaining of the physicians of Lynn and Salem. After the inspection of the factory's methods of manufacture has been made, refreshments will be served. At 4.30, for those who can spare the time, a moving picture film will be shown illustrating one of our methods of advertising.

This invitation is extended to you and to other physicians and we want you to feel free to accept and to be our guest for that afternoon.

Yours very truly,

LYDIA E. PINKHAM MEDICINE COMPANY,
Arthur W. Pinkham, President.

It may be that the manager of this company has no comprehension of the ethics of medical practice or it may be that the ambition to continue a paying business regardless of methods

employed may have led to a discard of ordinary self respect. Whatever the explanation may be, effort is being made to secure approval of a product which should have no standing in therapeutics. The official, signing the invitation, is reported to be a grandson of Lydia Pinkham and president of a bank in Lynn. One may properly question the moral status of a person who, although prominent in financial matters, causes to be sold to credulous people an alleged cure for diseases of which he and the sufferers have no technical knowledge.

The medicine advertised by this business house did not stand the test of analysis by the government a few years ago, for it was found at that time to contain 17.9% of alcohol, 0.56 grains of solids to each 100 cc., with some extractive material. Notice of Judgment No. 4997, issued January 30, 1918, fining the Company \$50 for fraudulent claims, is a matter of record. Whether or not the composition of the so-called medicine has been changed, the *JOURNAL* has not been informed, but the *Journal of the A. M. A.* states that the proprietor of a pharmaceutical jobbing firm has found that the keeping qualities are not good, for the compound is blowing up on the shelves. The label on the bottles now sold states that 15% of alcohol is used as a solvent and preservative, and recommends the compound for the treatment of non-surgical cases of weaknesses and disorders of the female generative organs. No suggestion is made of the possibility that some symptoms may be misinterpreted by a sufferer, and the early indications of cancer or other serious conditions may be construed as a weakness or disorder until the patient is beyond help.

It is expected that the medical profession of Lynn know perfectly well how to behave after the receipt of this invitation. As Dr. Frothingham has said of the chiropractors, one of the teachings of this concern is how to advertise according to one sentence in the circular.

Everybody respects the ethical financier and recognizes the dignity and importance of that calling, but a banker who seeks to secure endorsement of a proprietary medicine by the medical profession is lacking in understanding of the standards of ethical practice. Even Ponzi did not attempt to capitalize the nostrum fraud. He appealed to the gamblers' instinct. The Lydia Pinkham Company is willing to gamble on the credulity of women.

THE ANNUAL REPORT OF CONSUMPTION DEPARTMENT FOR THE CITY OF BOSTON.

THIS report for the year ending January 31, 1921, shows that the appropriation of

\$371,899.04 was more than sufficient, for a balance of \$20,658.41 was turned back into the city treasury. The receipts were \$93,327.93, which after being credited to the hospital made the net cost to the City of Boston \$257,912.70.

The admissions last year were fewer than in any previous year, hence, provision was made for the treatment of chronic surgical tuberculosis cases in response to a demand not otherwise met. Of the deaths from tuberculosis in Boston during the year, 51 per cent. were among patients under the care of the hospital. This shows the relative amount of work done in this institution for this class of cases in this community.

The financial record is commendable for the daily per capita expense was only \$2.24. The Out-Patient Department is a very important part of the service rendered, for there were 9,065 patient visits at an expense of \$1.43 each, and nurses made 60,310 visits to patients' homes at an expense of 87 cents each. These figures show financial efficiency. An institution of this kind represents the most advanced application of remedial measures and should be studied by all interested in the problems of tuberculosis.

MEDICAL NOTES.

CHRISTMAS SEAL SALE NEEDS VOLUNTEERS.—The Boston Tuberculosis Association, which has just given a Health Institute to which it invited the physicians of Greater Boston, and to which they came to the number of about four hundred, now appeals to the same physicians for help in the Christmas Seal Sale. The proceeds will be devoted to that most important object, a preventorium for children. It is proposed to establish the Prendergast Preventorium for Children. "The stitch in time that saves nine," on the estate at Mattapan of the Association, and this will be done as soon as funds will permit. The physicians, who heard at the Institute of the importance with which care of the pre-tuberculous child is now regarded by authorities, can help in the Seal Sale. Send your name at once to headquarters, Boston Tuberculosis Association, No. 3, Joy Street, Boston, and something will be given you to do which will help. Remember that a child receiving care and nourishment during a critical period, may be made possibly immune to tuberculosis through life. A child now cared for may be a life saved. Send your name. The *Journal* suggests that every physician attach a seal to every little send-out between now and Christmas.

A SECOND NUTRITION INSTITUTE was held in Rochester, N. Y., from October 3rd to 15th, with a membership of more than 150, including Dr. Joseph Murphy, Chief Medical Inspector of Schools in Washington, D. C.; Mrs. E. R. Grant, Supervisor of Nutrition Work, and Miss Edna Bailey, Nutrition Worker for the Washington Tuberculosis Association. The session closed with a mass meeting presided over by Professor John R. Murlin of the Department of Vital Economics in the University of Rochester, and addressed among others, by Dr. George W. Goler of the Health Department and Dr. Herbert S. Weet, Superintendent of Schools. Certificates were given to the "graduates" of nutrition classes—pupils who had succeeded in bringing their weight up to the average weight line. Especial commendation was given a boy who had gained 18¼ pounds in fifteen weeks without a single loss. Twenty-five classes are now in operation in the public schools besides many in the parochial schools and in orphan asylums. The Tuberculosis Association of Rochester and Monroe County under Dr. Kaiser, is planning a permanent diagnostic clinic for specially difficult nutrition cases.

An institute was held in New Haven, Connecticut, from October 10th to the 22d. Thirty-six students were enrolled, representing the physicians of the Board of Health, nurses, teachers, social workers and other persons with experience in some form of child welfare work. The Boards of Education and Health and the Junior Red Cross were responsible for the course. Besides the lectures and demonstrations of Dr. Wm. R. P. Emerson and his assistant, Miss Skilton, addresses were given by Mrs. Ira Couch Wood of the McCormick Memorial Fund, Chicago; by Professor Lafayette Mendel on "The History of Nutrition," and by Professor Arnold Gesell on "Malnutrition and Mental Development."

On October 9th, Dr. Emerson spoke at Erie, Pa., in meetings of the Erie County Medical Society and the Tuberculosis Association. On the 27th, he gave three addresses at Poughkeepsie, before the freshmen of Vassar College, the Tuberculosis Association, and the Child Welfare organizations of that section of the state.

CLINICAL LABORATORIES.—The leading editorial of the *Journal of the A. M. A.* for November 5, 1921, refers to the growth of clinical laboratory service for physicians. Dr. Woodward, Commissioner of Health for the City of Boston, some time ago expressed the fear that these commercial enterprises may be a source of confusion to physicians and harm to the public by reason of reports based on unscientific work.

He has felt that a law should be enacted providing for the licensing and regulation of such laboratories. This suggestion should receive consideration by the Committee on Legislation.

NEWS ITEMS.

THE MASSACHUSETTS CIVIC ALLIANCE mailed on Wednesday, November 9th, the following to President Harding and to members of the Republican National Committee and the Democratic National Committee:

Senate 1039. The Maternity Mirage appropriates \$1,480,000 annually for Conversation Centers, Studies and Surveys on Married Women by Unmarried Women.

The great Political Parties which pay their own campaign bills may well pause and first discover who is in the million and half dollar wood-pile that is declared in the bill to be for "promoting the care of maternity and infancy" but provides for organization, lectures, consultation centers and committees, both state and local, and not a penny for the baby or its mother.

Medical societies everywhere are pronouncing against the measure as needless and oppressive. The National Tax Association and the National Conference of State Manufacturers' Associations have taken unanimous action in opposition. The Civic Federation of Chicago has wired to Washington: "Newspapers report proposed amendments to maternity bill taking care of this or that objecting interest. Measure cannot be satisfactory to manufacturing and business men of Middle West unless vicious feature of Federal aid is eliminated. We are confident your committee does not desire to discriminate against taxpayers in handling this measure. Respectfully yours, The Civic Federation of Chicago, by Joseph E. Otis, President.

This anomalous bill requires that the states establish extensive courses of lectures and consultation centers, but forbids the renting or purchase of any building in which to hold them. It employs nurses but not for nursing. Its title pretends that it is for the public protection of infants, but the bill naively provides a method of protecting infants from its ministrations. It is for mothers, but its text overlooks pregnant women and expectant mothers. It is for child-bearing, but provides neither doctor, nurse nor midwife for obstetrics. It is advanced on the claim it will reduce deaths of mothers and infants, but it makes no medical provision and employs no physician.

What then is its object?

THE MASSACHUSETTS CIVIC ALLIANCE,
PAYSON W. LYMAN, *President*.
EBEN W. BURNSTEAD, *Secretary*.

CHESHIRE COUNTY HOSPITAL.—The drive for the Cheshire County Hospital in Keene, N. H., was a great success. It was hoped to raise \$225,000. The people responded enthusiastically and subscribed \$273,664.81.

TWO HUNDRED CHILDREN GIVEN "NEW EYES."—Out of 100,000 pupils in the New York public schools who fail to be promoted each year, 50,000 have defective eyesight, 25,000 are suffering the humiliation of being "left-backs" simply because they are desperately in need of glasses. The Junior Red Cross has established a \$5,000 fund to aid parents in buying glasses for their children. Already 200 children have been given "new eyes," according to a report issued by a local chapter of the Red Cross. The fund is self-sustaining, in that the children pay back the cost of their glasses on the installment plan. Every child who evidently does not see well, and every child who is cross-eyed, should be examined at three or four years of age. Every child is entitled to an examination of the eyes before beginning school work, no matter what the age. The vision should be tested every year, whether glasses are worn or not, in order to discover any defects that may be developing or any increase in defects known to exist.

Obituaries.

LILLIE ANASTASIA ABERLE BARTOLS, M.D.

DR. L. A. A. BARTOLS, a woman physician living at 94 Milton Avenue, Dorchester, Mass., died at her home November 9, 1921, on her fortieth birthday, after a long illness. She was a graduate of the Woman's Medical College of Baltimore in 1901, and had practised in Jamaica Plain for ten years. She leaves her husband, Theodore H. Bartols, and a daughter, a student at Radcliffe College.

HENRY CLARENCE WILLIAMS, M.D.

DR. HENRY CLARENCE WILLIAMS died at his home in Boston, November 8, 1921, aged 66 years. He was born in Manchester, England, January 26, 1855, was a licentiate of the Royal College of Physicians, Edinburgh, 1880, and a member of the same college two years later, and settled in Melrose, joining the Massachusetts Medical Society in 1887. He had practised in Boston for many years, doing medical work for Police Station 4 besides general practice. He is survived by two daughters.

The Massachusetts Medical Society

ADJOURNED MEETING OF THE COUNCIL.

NOVEMBER 9, 1921.

AN adjourned meeting of the Council was held at the Boston Medical Library, 8 The Fenway, Wednesday, November 9, 1921, at 12 o'clock, noon. Dr. John W. Bartol, President, was in the chair, and the following 73 councilors present:

BRISTOL NORTH.
F. A. Hubbard.

BRISTOL SOUTH.
J. C. Pothier.

ESSEX NORTH.
F. W. Snow.
R. V. Blaketel.
J. F. Burnham.
G. E. Kurth.
J. J. O'Sullivan.
H. L. Toppa.

ESSEX SOUTH.
P. P. Johnson.
J. F. Donaldson.
A. N. Sargent.
R. E. Stone.

MIDDLESEX NORTH.
L. M. Crosby.
W. B. Jackson.
J. H. Lambert.
J. A. Mehan.

MIDDLESEX SOUTH.
E. A. Andrews.
E. W. Barron.
C. A. Bennett.
John Duff.
F. J. Goodridge.
F. R. Jouett.
C. E. Mongan.
C. F. Painter.
W. D. Ruston.
L. F. Sise.
F. G. Smith.
C. H. Staples.
E. H. Stevens.
A. K. Stone.
F. R. Stubbs.
Fresenius Van Nijss.
Alfred Worcester.

NORFOLK.
C. E. Allard.
E. H. Baxter.
E. H. Brigham.

NORFOLK (continued).

A. N. Broughton.
W. L. Burrage.
W. A. Griffin.
F. C. Jilison.
W. B. Keeler.
Bradford Kent.
M. V. Pierce.
H. H. Powers.
G. H. Scott.
Augusta Williams.

NORFOLK SOUTH.
G. H. Ryder.
G. M. Sheahan.

PLYMOUTH.
R. B. Rand.
W. C. Keth.
Gillman Osgood.

SUFFOLK.
J. W. Bartol.
V. Y. Bowditch.
F. J. Cotton.
L. J. Cummins.
Lincoln Davis.
G. S. Hill.
J. C. Hubbard.
Donald Macomber.
J. J. Minot.
W. H. Robey, Jr.
Stephen Rushmore.
D. D. Scannell.
C. L. Scudder.
Myles Standish.
J. S. Stone.
Louisa P. Tingley.
F. H. Williams.

WORCESTER.
W. P. Bowers.
G. A. Dix.
F. H. Washburn.
S. B. Woodward.
WORCESTER NORTH.
W. E. Currier.

The minutes of the last meeting were read in abstract by the Secretary and as no corrections or additions were noted, they were accepted as printed and read.

Dr. W. P. Bowers presented the report of the committee appointed at the last meeting to consider the subject of indemnity insurance in malpractice suits; he read the report, a letter of agreements and explanations from Mr. George H. Crosbie, and later a motion which was accepted by Dr. Stephen Rushmore as a substitute for a motion that had been made by him. They follow:

REPORT OF COMMITTEE ON INDEMNITY INSURANCE.

The committee appointed at the council meeting of October 5, 1921, namely: W. P. Bowers, E. H. Stevens, P. E. Truesdale, E. A. Bates and A. P. Merrill, to consider the subject of indemnity insurance submits the following report:

Two meetings have been held at which all members were present.

The Chairman secured the subjoined data from the representatives of the following companies and submitted them to the committee:

The United States Fidelity and Guaranty Co. of Balto., offer insurance at an annual rate of \$21 for a five thousand dollar indemnity for any one suit and a limit of \$15,000 for all other suits in the year covered by the policy, \$28 for a 10 to 30,000 policy and \$31.50 for a 15 to 40,000 policy.

The Hartford Accident and Indemnity Co.—\$21 for a 5 to 15,000 and \$28 for a 10 to 30,000. But do not agree to cover all applicants for insurance, for those with greater liability, such as specialists, are not desired.

The Royal Indemnity Co. of N. Y.—\$30 for a 5 to 15,000.

The Fidelity and Casualty Co. of N. Y.—\$45 for a 5 to 15,000.

The Aetna—\$45 for a 5 to 15,000.

After the last meeting of the Committee the New Amsterdam Casualty Co. submitted the following proposition: For an annual premium of \$20 a policy will be written for 5,000 with a 15,000 limit; \$30 for a 10,000 and \$37.50 for a 15,000 without further limit. Yesterday afternoon the usual limit was substituted.

This proposition could not be considered by the Committee and, so far as this one is concerned, the opinion of the Chairman is presented.

This company was represented by two different solicitors and two propositions submitted, so that one may not be sure of the final attitude of the company. In one proposition the rate was quoted as \$25 for a five thousand dollar policy and that was the proposition considered by the committee. It was also stated that this company would expect that 30% of the members of the Society would take insurance. This is a larger number than could be guaranteed with any degree of confidence, hence, the proposition of Mr. G. H. Crosbie representing the United States Fidelity and Guaranty Co. seems to the Committee to be the better proposition. Mr. Crosbie in his proposition covers all of the points which have been discussed and has incorporated all suggestions made in a statement herewith submitted.

It should be kept in mind that the formation of a mutual insurance society may at any time be considered if the insurance companies again threaten abnormal rates.

It should also be kept in mind that the formation of a group insurance is not a function of the Massachusetts Medical Society as such, for it has no function as an insurance company. And, therefore, this report is only a suggestion or recommendation.

Cooperation of the members of the society is advised in order to secure stability and lowest possible rates for the future.

The conclusion arrived at by the Committee is that the United States Fidelity and Guaranty Company offered the most attractive plan. The chairman of the committee, in the absence of opportunity to consult his associates, suggests that even the offer by the New Amsterdam Company of a rate of one dollar less for a five thousand indemnity policy does not offset the advantage of the United States Fidelity and Guaranty Company's offer of two dollars less for the ten to thirty thousand dollar policy, and further, the condition of the New Amsterdam Company for a group of not less than 30% of the society

members makes the proposal of the New Amsterdam Company prohibitive.

The agreements of Mr. Crosbie representing the United States Fidelity and Guaranty Company are herewith submitted.

(Signed) W. P. BOWERS,
For the Committee.

AGREEMENTS OF GEORGE H. CROSBIE.

George H. Crosbie, Insurance,
79, Milk Street, Boston, Mass.

November 8, 1921.

I hereby submit to the members of the Massachusetts Medical Society, group indemnity or physicians' liability insurance to be issued by the United States Fidelity and Guaranty Company of Baltimore, Maryland, which Company has a capital of \$4,500,000.00 and assets of \$32,000,000.00. They have already written group policies for fourteen different societies.

(1) The insurance company agree to indemnify and defend each member of the Society taking advantage of this group proposition against loss from the liability imposed by law in consequence of any malpractice error or mistake.

(2) The Company's liability for loss from any malpractice error or mistake will be limited to \$5000 and subject to the same limit for each person. The company's total liability on account of acts committed, or alleged to have been committed, during any one annual premium period, will be \$15,000. The premium charge for these limits will be \$21 per annum. For limits of \$10,000 and \$30,000 the annual premium charge will be \$28; for limits of \$15,000 and \$30,000 the annual premium charge will be \$31.50. Higher limits may be secured at slightly increased rates.

(3) All expenses of investigating and all court costs in defending any suit including the interest on any verdict or judgment or any other costs taxed against the insured will be paid by the Company, irrespective of the limits expressed above.

(4) This policy also covers suits rendered against the estate of the insured and eliminates the old wording "bodily injury and death" from the insurance clause.

(5) The Company will issue a policy in the name of the members of the Massachusetts Medical Society, which policy will be held by a member of the group as a trustee. Each member of the Society who takes advantage of insurance under this policy will be furnished a certificate to be held by him and a copy of the individual application will be filed with the trustee holding the policy; so that a complete record of all members insured will be in possession of the group.

(6) All certificates issued to individual members will expire on the fiscal date of policy and any certificate issued during the policy year will be on a pro rata premium charge.

(7) In case of suit the doctor being sued shall have the privilege of deciding whether the case shall be settled outside of court or fought; but before making his decision, if he desires, he may submit the matter to a committee of five members, of the group, three members of this committee to be appointed by the group, one by himself and one from the group by the insurance company. But in all cases the individual doctor shall have the final decision himself. It is strongly recommended that the doctor being sued should appeal to the Committee of Five.

(8) To constitute a group the company require 400 members being insured during the first year. I can assure the Society of more than this number so that this requirement of the Company will be met. The success of the whole proposition will depend on the hearty cooperation of the Society. If the business is divided between two or three companies, no one company can get an average on the business.

(9) No member will be required to carry this group insurance or to release his right now existing to participate in the Malpractice Defense Act of the Society. It will in no way interfere with the Act.

(10) Any member now insured in another company may take advantage of this group insurance in addition to his other insurance or wait until the expiration of present policy and have the group insurance apply from that date.

(11) Under this group plan, the Society will have no expense or detail as the collection of premiums, issuing of policies, will be all handled through my office. The only request I ask is that notification be given me of the appointment of new members and the discontinuance of any old members.

This insurance can be made effective as soon as acted upon.

Very truly yours,

(Signed) GEORGE H. CROSBIE.

P. S. This group is applicable only to members of the Massachusetts Medical Society. On resignation of a member, this insurance automatically ceases.

MOTION.

Moved: That the Council of the Massachusetts Medical Society endorse the conclusions of the committee on indemnity insurance and recommend to members of the society who intend to take indemnity insurance to take advantage of the proposition submitted by the United States Fidelity and Guaranty Company of Baltimore through Mr. George H. Crosbie.

The motion to accept the report and adopt its recommendations having been seconded, Dr. Bowers explained some of the features of liability insurance policies, in response to questions from the floor. Dr. A. N. Broughton of Norfolk, asked whether the Fidelity and Guaranty Company intended to raise their rates at the expiration of the year covered by the policies they were to issue. Dr. Bowers thought that an attempt would be made to lower the rates rather than to advance them; if it turned out in the future that they were not, he thought that the question of mutual insurance could then be considered. Dr. Broughton believed in having an interested individual such as Mr. Crosbie, to represent both the insurance company and the physician, and he queried whether any decision had been arrived at concerning the attorney who would represent the insurance company in the cases cared for under the proposed policies. Dr. Bowers replied that that matter had been considered by Mr. Crosbie and a meeting arranged between the attorney for the Fidelity and Guaranty Company, Mr. H. V. Cunningham, and the attorney for the Society in malpractice suits, Mr. E. P. Saltonstall. Just what conclusion had been arrived at he did not know. He thought that Mr. Crosbie understood the feeling of the fellows that Mr. Saltonstall was a capable trial lawyer, had served the Society faithfully and well, and that they would like to have his assistance in their malpractice insurance. He thought that there was no question that an insurance company had the ultimate right to employ an attorney of their own selection. Dr. Broughton thought that the Society would be safer with

their own attorney associated with the attorney of the insurance company than to trust solely to the latter, who might be influenced to save money for his employer rather than work for the interests of the physician who was being sued. In response to a question by Dr. S. B. Woodward of Worcester, the Secretary said that Mr. Saltonstall had arranged with the Governor, before assuming the appointment as attorney for the Northern District of Middlesex to fill out the unexpired term of Nathan Tufts, to keep on with the work of the Massachusetts Medical Society in the defence of their suits for malpractice, as in the past; that his term would end December 31, 1922, and that suits that might be entered now would not come to trial before that time, as it ordinarily takes about two years for a case to be reached on the trial list. In the meantime his office was prepared to take charge of any case that needed attention. Dr. J. A. Mehan of Middlesex North, thought that the advisory committee, which had been suggested by Mr. Crosbie to consider each suit, ought to be vested with power to compel a settlement, if such a course was most advisable, so that an obstinate fellow who had a poor case might not insist on fighting. He knew of a recent instance of that sort. Under the usual insurance contract, the defendant fellow had to give his consent to settle in writing, before a settlement could be made. Dr. F. J. Cotton of Suffolk, hoped that Mr. Saltonstall might be employed by the insurance company without interfering with their legal department. Dr. Donald Macomber of Suffolk, *Moved,* That the counsel of the Massachusetts Medical Society be employed by the insuring company in association with their own counsel in the trial of every suit brought against members of the group taking insurance with that company.

Dr. Bowers opposed the amendment on the ground that the Society as a society has nothing to do with insurance, under the terms of its charter; it could, however, properly make a recommendation; in the final analysis the group of men who take insurance are the ones to determine such questions. In response to Dr. Worcester of Middlesex South, he defined the terms of the Society's malpractice act under which any fellow in good standing may avail himself of the provisions of the act, whether he carries insurance or not. Dr. Woodward of Worcester, asked whether fellows who carried insurance had, in the past, availed themselves of malpractice defence. The Secretary replied that as a rule they had not; they had received whatever advice the Secretary could give and generally accepted the defence provided by their insurance company; there was no plan by which an insured fellow might receive the aid of the Society's attorney in the capacity of senior counsel as the malpractice act provided that a malpractice case

was to be exclusively in the hands of the Society or exclusively in the hands of outside counsel. Experience has proved that no halfway course was feasible. Dr. J. H. Lambert of Middlesex North, thought that the physician who is sued ought to have some choice as to the attorney who is to defend his suit; that the group of physicians who take out insurance should be advised what action they should take in this regard. Dr. J. S. Stone of Suffolk, said that according to paragraph 7 of Mr. Crosbie's letter, read by Dr. Bowers, the fellow sued had the privilege of consulting a group of five from the group to decide whether his suit should be settled out of court or fought; he suggested that the counsel of the Society be one of this advisory committee, and he *Moved*, That the advisory committee shall consist of the counsel of the Society, two members of the group, a representative of the insurance company and a representative of the defendant.

Dr. Cotton thought that the Society's attorney should be utilized in the defence of the insurance cases to a larger extent than by serving on the advisory committee; the moral advantage of having a tried trial lawyer connected with them would be considerable, a factor to be taken into account when new members of the group were solicited. Dr. Stevens and Dr. Painter of Middlesex South, thought that the insurance company could be trusted to meet the wishes of the Society in the matter of the counsel, while Dr. Broughton would favor having a definite agreement that the counsel already employed by the Society was to be utilized by the insurance company. Dr. Bowers thought that the counsel of the Society might be employed in an advisory capacity by the insurance company on the recommendation of the Council; in reply to a question by the Chair, he said he was not familiar with the arrangement put in force last May by the Medical Society of the State of New York for indemnity insurance of its members with the Etna Insurance Company. Dr. Woodward asked, as Chairman of the Committee on Membership and Finance, whether if the Council was to accept the proposition for Mr. Saltonstall to act for the group the Society was to pay for any expenses that might be caused by reason of such service. The matter was discussed by Dr. Bowers, Dr. Cotton, Dr. Broughton and Dr. Worcester. Dr. J. S. Stone's amendment was put by the Chair, seconded, put to a vote and carried. Dr. Macomber's amendment was then seconded, put to a vote and lost.

The original motion of Dr. Rushmore, as revised by Dr. Bowers, and seconded, was then before the Council. Dr. Woodward asked again how Mr. Saltonstall was to be paid if he was to serve on the Advisory Committee. Dr. Worcester thought the question well taken and that if expenses were incurred they would consti-

tute an "extraordinary appropriation" which would have to be referred to the Committee on Membership and Finance under the terms of Chapter VII, Section 3 of the By-Laws. In response to a question by Dr. Cotton, the Secretary stated that the charges of Mr. Saltonstall were the usual rates charged by lawyers in similar cases. The Society had no definite contract with him as it had been thought inadvisable to make a definite bargain; his bills were O.K.'d by the Secretary and approved by the President if they were considered to be reasonable. Mr. Saltonstall, as was the case with the previous counsel, Mr. A. D. Hill, had done much work for charitable organizations, was interested in the medical profession and had been very moderate in his charges for services rendered. Dr. Cotton thought that the officers of the Society had authority to pay any expenses that might be incurred on the score of malpractice defence without needing an "extraordinary appropriation." He asked for a ruling by the Chair. The Chair read parts of Section 8 of Chapter IV of the By-Laws as follows: "The Council shall vote the salaries of its officers, the appropriations for its officers and committees, and such other appropriations as it may deem fit, except that every request for an extraordinary appropriation shall be first submitted to the Committee on Membership and Finance for a recommendation. The President shall decide what constitutes an extraordinary appropriation." The Chair said that under the above provisions he would rule that in the event of legal expense being attached to the meetings of the advisory committees that such expense would be considered as ordinary legal defence expense and would not be considered as requiring an "extraordinary appropriation"; that he was prepared to approve bills for such expense as appeared to him to be reasonable.

There being no appeal to this ruling, Dr. Rushmore's motion as amended by the motion of Dr. Stone, was passed by a unanimous vote.

The reports of the committees appointed to consider the petitions of Henry Harrison and D. W. Heffernan to be restored to the privileges of fellowship were read by the Chair. Their recommendations that these men be restored under the usual conditions were adopted by separate votes. The following report on a similar petition of F. H. Parker was read by the Chair and adopted by a unanimous vote:

Waltham, October 31, 1921.

To the Council of the Massachusetts Medical Society:

The Committee charged with considering the petition of Dr. Frank Howard Parker for restoration to the privileges of fellowship to the Massachusetts Medical Society report as follows:

Dr. Parker joined the Society in 1894 and was deprived of Fellowship for non-payment of dues February 7, 1906. In accepting the charge of the Hospital for Lepers on Penikese Island, Dr. Parker undertook a much harder service than he had the right to ex-

pect. The State of Massachusetts was far from liberal in the support of this hospital, and Dr. Parker was obliged out of his own small salary to provide comforts for his leper patients which were necessary for them.

Owing to the hysterical fear of contamination, his friends and nearest neighbors ostracized him.

As is well known, the care of leper patients last year was transferred from the State to the United States. From the Leper Hospital at Penikese the patients were sent to Louisiana.

Dr. Parker has given most devoted service to Massachusetts and your Committee believe that the Society would be honored by restoring him to its membership.

We, therefore, recommend that Dr. Parker be restored to the privileges of Fellowship, with abatement of all dues including those for the current year.

Respectfully submitted,

[ALFRED WORCESTER
Committee: EDMOND F. CODY
[E. G. BRACKETT]

The petition of H. L. Wallace to be restored was read and the following committee appointed to consider it: S. F. McKeen, F. W. Rice, H. S. Rowen.

Adjourned at 1.50 P.M.

WALTER L. BURRAGE,
Secretary.

NOTES FROM DISTRICT SOCIETIES.

NOTES FROM THE WORCESTER DISTRICT MEDICAL SOCIETY.—Dr. Benjamin H. Alton, and Miss Elizabeth Moen, both of Worcester, were married in Woodstock, Vt., November 7, 1921. Dr. Alton is a graduate of the University of South Dakota and of Harvard Medical College. In 1915 he joined the Harvard Unit and served in the British Army as a Major.

Twenty-seven members of the Worcester District Medical Society braved the snow and slush for the first meeting of the year to be held outside of Worcester, and journeyed to Spencer on the evening of November 9, 1921. The Spencer members of the Society had provided police protection for automobiles and a comfortable hall for a much larger meeting. Miss Prouty of Spences, entertained the members by several vocal selections at the beginning of the meeting. It was voted that a committee of five with Dr. E. H. Trowbridge of Worcester as chairman, be appointed to consider the advisability of adopting a new code of ethics adaptable to present-day needs. Dr. Philip H. Cook of Worcester, read a paper on "The Therapeutic Effect of the Röntgen Ray on Lymphoid Tissue." He said in part, that the Röntgen ray had a selective action on lymphoid tissue, causing a fibrosis and diminution in size of tissue involved. He gave histories of cases of myelogenous leukaemia and Hodgkin's disease which had yielded to treatment. He quoted the work of Remer and Witherbee of the Rockefeller Institute, who had treated a series of 46 cases of hypertrophied tonsils by the Röntgen ray. By means of this treatment they had secured a fibrosis of the

tonsils, opening up and draining of the crypts and relief of constitutional symptoms. It had been also tried with diphtheria carriers successfully. The paper was discussed by Drs. Cobb, O'Connell and Lincoln.

Dr. Noel G. Munroe of Southbridge, gave a statistical report of his examination of 750 employees of the Southbridge Optical Company for errors of refraction. He found that 35% of those under 40 years of age needed glasses, and 50% of those over 40 needed glasses. This paper was discussed by Drs. Moore and Fowler.

MIDDLESEX SOUTH NORFOLK AND NORFOLK SOUTH DISTRICT MEDICAL SOCIETIES.—In accordance with a request from the President of the Massachusetts Medical Society, a joint meeting of these three District Societies will be held at Tufts College Medical School, Tuesday evening, November 29, 1921, at 8 P.M. sharp. The purpose of this meeting is to consider impending legislation relating directly or indirectly to the medical profession, to meet with the President of the Massachusetts Medical Society, and to become better acquainted with each other. Dr. John W. Bartol, President of the Massachusetts Medical Society, will talk on the legislative program of the Society. Dr. Charles E. Mongan will discuss matters that will come before the Legislature. Dr. Arthur N. Broughton will have something to say regarding Health Insurance and Workman's Compensation. The meeting will be open to consider suggestions along legislative lines. This meeting will be of great interest to all, and should be supported by your attendance. A collation, no charge, will be served after the meeting. The supper card must be presented at the entrance to the supper room.

Miscellany.

PROPAGANDA FOR REFORM.

More Misbranded Nostrums.—The following products have been the subject of prosecution by the federal authorities charged with the enforcement of the Food and Drugs Act, chiefly because the therapeutic claims advanced for them were held to be false: Joyner's Gui-A-Col Compound (William-Ellis Drug Co.), consisting essentially of guaiacol, an iodid, sugar, alcohol, and water, and falsely labeled as a remedy for consumption, whooping cough, and all affections of the throat, chest and lungs. Egyptian Regulator Tea (Kells Co.), consisting essentially of senna, coriander, dog grass, ginger, taraxacum, sambucus, licorice and cinnamon, and claimed to be a speedy relief for dyspepsia, liver complaint, headache and nervousness. Nervosex Tablets (United Laboratories Co.), consisting essentially of strychnin, phosphates, and iron,

zinc, and calcium salts, and claimed to be a nerve and muscle stimulant. Falsely labeled a compound of nerve and muscle stimulants for low vitality, lack of energy and sexual weakness. Castalian Natural Mineral Water (J. P. Forbes & Co.), recommended for rheumatism, Bright's disease, dyspepsia, diphtheria and other conditions. Man's Capsules (Man's Capsule Co.), consisting essentially of cubeb and copaiba, and sold as a remedy for gonorrhea and gleet (*Jour. A. M. A.*, Oct. 1, 1921, p. 1119).

Patent Medicines in England.—The ethical standards of the "patent medicines" industry in Great Britain in 1921 is that which obtained in the American "patent medicine" industry prior to the passage of the Food and Drugs Act in 1907. As long ago as 1912 the British Parliament created a Select Committee on "Patent Medicines." The Committee published a report in 1914. The coming of the World War favored the nostrum interests and no legislative action was taken until 1920, when a Proprietary Medicine Bill was introduced into the House of Lords. The British Government received revenue from the sale of "patent medicines" totaling 1,332,661 pounds, and the very fact that a government hard up for revenue should be able to obtain so vast a sum from a business so largely tinctured with fraud and such a menace to the public health, may be "a sufficient reason" in explanation of the British Government's attitude of "innocuous desuetude" toward the bill (*Jour. A. M. A.*, Oct. 1, 1921, p. 1107).

Toxicide Not Admitted to N. N. R.—The Council on Pharmacy and Chemistry reports that Toxicide (Toxicide Laboratories, Chicago) is alleged to be a remedy which "increases systemic resistance . . . used for immunizing against septic infections . . . is indicated in any case of septic infection, capable of inducing inflammation and pus formation, regardless of location or kind of tissue involved." The manufacturer informed the Council that "Toxicide contains Lachesis 12x, Tarantula 6x, Psorium (special) 15x, Silica 6x, and Exeipent q.s. (the exeipent is sweet milk) . . . These remedies are combined in the sweet milk and put through a process of development, which produces the curative agent which we call 'Toxicide'." No information was given as to the proportions, either relative or actual, of the ingredients, nor was any information given as to the "process of development" to which the mixture is subjected. Neither was any evidence submitted to the Council for the highly improbable claims of curative effect which are made for Toxicide. The Council declared Toxicide inadmissible to New and Nonofficial Remedies because: (1) The identity and amount of the potent constituent or constituents have not been furnished; (2) the preparation is advertised indirectly to the public; (3) the name

"Toxicide" is therapeutically suggestive, and (4) the therapeutic claims, being unsubstantiated by evidence, are unwarranted (*Jour. A. M. A.*, Oct. 8, 1921, p. 1197).

Tired Rabbits for Diabetes and Ring-Tailed Monkeys for Sex Stimulation.—In March, 1919, an article by T. Webster Edgar appeared in the *New York Medical Journal* in which Edgar stated that he had treated successfully twenty cases of definite diabetes with intramuscular injections of his diabetic serum. No information was given regarding the serum, except that it was prepared from normal blood after the animal is exercised to the point of fatigue. Subsequently, newspaper articles appeared in which Edgar is quoted as using the blood of rabbits first placed on a treadmill to produce fatigue. In November, 1920, an article by Edgar appeared in the *New York Medical Journal* on "Sterility, Sex Stimulation and Endocrines," in which he stated that he was interested in sex stimulation and that he had a serum which he was using with success in this condition. During the last year newspapers have carried sporadic reports of alleged remarkable results produced by Dr. Thomas Webster Edgar of New York, through the transplantation of "interstitial gland" taken from "a special species of orangoutang." In a letter to a layman, Edgar stated that the treatment was successful and that he was now treating all cases by this method, and that the fee for the operation was five hundred dollars, inclusive of the sanitarium. Commencing Sunday, October 1, 1921, a series of sensational articles appeared regarding one of Edgar's alleged monkey-gland implantations. The material is played up in the style typical of yellow journalism. The statement that appeared in these articles to the effect that Edgar "is a member of the County Medical Society of New York," is incorrect. Edgar is not a member. (*Jour. A. M. A.*, Oct. 15, 1921, p. 1272.)

Pil Mixed Treatment (Chichester).—This is a proprietary preparation of the Hillside Chemical Co., Newburgh, N. Y., sold in the form of pills, each said to contain 1/20 grain of mercuric iodid and five grains potassium iodid. The Council on Pharmacy and Chemistry reports that in 1907 the therapeutic claims advanced for the preparation were examined and found to be unwarranted, exaggerated and misleading. Misleading statements were also made for the product itself. The Council holds that the use of Pil Mixed Treatment (Chichester) is on a par with the use of certain blood purifiers which were advocated at a time when the treatment of syphilis was a baffling problem. It reports that the present day advertising, which reads as if it had been written in the heyday of proprietary license, is, in effect, an invitation to treat syphilis in its various stages and manifestations with Pil Mixed Treatment (Chichester). If followed, it will result in

much harm to the public (*Jour. A. M. A.*, Oct. 22, 1921, p. 1355).

More Misbranded Nostrums.—The following products have been the subject of prosecution by the federal authorities charged with the enforcement of the Food and Drugs Act, chiefly because the therapeutic claims advanced for them were held to be false: Eucal-Mul (Edward G. Binz Co.), consisting essentially of oil of eucalyptus, sugars, glycerin, gum, water and alcohol, and claimed to relieve bronchial asthma, and to be effective in coughs of phthisis and whooping cough. Kalina Tablets (J. M. Rutkowski and Kalina Co.), consisting essentially of plant extracts, including cascara, aloes, pepper and strychnin, and sold as a health restorer, blood purifier, etc. Howell's Lymphine Tablets (Chas. H. Howell and Co.) pills consisting essentially of ferrous carbonate, nuxvomica, aloes and phosphorus, and claimed to relieve all forms of weakness, etc. Wampole's Phosphorus, Nux and Damiana (Henry S. Wampole Co., Baltimore), consisting of the three drugs named, and recommended for impotence, insomnia, hysteria and diseases of the brain in both sexes (*Jour. A. M. A.*, Oct. 29, 1921, p. 1438).

Converse Treatment for Epilepsy.—An examination of this preparation in the A. M. A. Chemical Laboratory in 1916, showed that essentially each 100 c.c. of the preparation contained about 7.3 gm. ammonium bromid, 5 gm. calcium bromid, and 8.7 gm. potassium bromid. Calculating from the bromid determination, each dose of one teaspoonful (1 fluidrachm) contains the equivalent of 14.5 grains of potassium bromid or each daily dose (4 teaspoonfuls) corresponds to 58 grains potassium bromid (*Jour. A. M. A.*, Oct. 29, 1921, p. 1440).

Micajah's Uterine Wafers.—Micajah's Medicated Wafers (formerly called Micajah's Medicated Uterine Wafers) were analyzed in the A. M. A. Chemical Laboratory in 1910, and found to consist essentially of dried "burnt" alum, boric acid and borax. In 1919 the Council on Pharmacy and Chemistry, in reporting on this product, showed that whatever virtues might be possessed by the proprietary are those inherent in such well-known astringents as alum, boric acid and borax. Physicians who use this will be likely to overlook or pass over new growths, specific infections and diseases that require radical remedial measures (*Jour. A. M. A.*, Oct. 29, 1921, p. 1441).

Sal Hepatica.—Little information is given, or apparently ever has been given, by the proprietors (The Bristol-Myers Co.), in regard to the composition of Sal Hepatica. Some years ago medical journal advertisements contained the statement that it contained all the "Tonic, Alterative and Laxative Salts of the celebrated 'Bitter Waters' of Europe . . . fortified by the addition of Lithium and Sodium Phosphates." It has also been claimed that Sal

Hepatica is "a saline combination with the addition of Sodium Phosphate and Lithia Citrate."

In view of indefinite statements the A. M. A. Chemical Laboratory made an analysis of the product. The analysis showed it to have the following composition: sodium phosphate anhydrous 4.4 per cent., sodium sulphate anhydrous 26.5 per cent., sodium tartrate anhydrous 12.7 per cent., sodium bicarbonate 19.5 per cent., tartaric acid, free 20.8 per cent., sodium chlorid 8.9 per cent., lithium phosphate trace, water of hydration (by difference) 7.2 per cent. Sal Hepatica, therefore, is essentially an effervescent mixture of dried sodium sulphate and sodium tartrate with a little dried sodium phosphate and table salt added. Sal Hepatica, then, is a simple effervescent saline laxative (*Jour. A. M. A.*, Oct. 29, 1921, p. 1438).

RÉSUMÉ OF COMMUNICABLE DISEASES.

OCTOBER, 1921.

General Prevalence.

There were 3,918 cases of communicable diseases reported for this month; the total for September, 3,304. This represents a moderate, but not unexpected, increase over the number of reports for the previous month. There were reported during October, 1920, 5,174 cases of communicable diseases.

Anterior Poliomyelitis fell off from 54 cases in September to 27 cases for this month.

Chicken-pox.—There were 248 cases of chicken-pox reported for October as against 61 for September.

Diphtheria.—There were 884 cases of diphtheria reported this month. This total exceeds that of any other month this year, with the exception of January.

Dog-bite requiring anti-rabic treatment was reported in 16 instances. This is a rather high monthly total.

Gonorrhea and Syphilis showed decreased reported incidence, with 434 for the former and 170 for the latter; totals for September, 508 and 196, respectively.

Influenza.—There were 27 cases reported for October.

Menses increased from 201 cases for September to 313 for October. This is the usual history for this season of the year.

Lobar Pneumonia.—There were 192 cases for October as compared with 126 for September. This represents an expected seasonal occurrence.

Smallpox.—The five cases reported represent the reports of one city. These are the first cases reported since last April.

Pulmonary Tuberculosis.—For the current month, 501 cases of pulmonary tuberculosis were reported. This is about the usual number.

Typhoid Fever.—There were 106 cases reported for this month; total for September, 129 cases.

Whooping Cough was reported in 156 instances; this is the least number reported for any month during the past several years.

RARE DISEASES.

Anterior Poliomyelitis was reported from Adams, 1; Andover, 2; Boston, 4; Cambridge, 1; Chelsea, 1; Chicopee, 1; Everett, 2; Greenfield, 1; Haverhill, 2; Holyoke, 1; Lynn, 1; Melrose, 1; New Bedford, 1; Newburyport, 1; Newton, 1; Pittsfield, 2; Salem, 1; Springfield, 1; Swampscott, 1; Truro, 1. Total, 27.

Anthrax was reported from Haverhill, 1.

Dog-bite requiring anti-rabic treatment was reported from Arlington, 1; Billerica, 1; Fall River, 1; Lawrence, 9; Lowell, 3; Somerville, 1; Swansea, 1; Winthrop, 1; Worcester, 1. Total, 19.

Dysentery was reported from Adams, 1; Boston, 1; Danvers, 2; Great Barrington, 1; Warren, 1. Total, 6.

Encephalitis Lethargica was reported from Boston, 1; Lynn, 2; Greenwich, 1; Salem, 1; Worcester, 1. Total, 12.

Epidemic Cerebrospinal Meningitis was reported from Boston, 3; Brookline, 1; Cambridge, 1; Draut, 1; Framingham, 1; Lowell, 1; Lynn, 1; Swampscott, 1; Tewksbury, 1. Total, 11.

Malaria was reported from Dedham, 1; Methuen, 1; Northampton, 2; Northbridge, 2. Total, 5.

Septic Sore Throat was reported from Boston, 4; Cambridge, 1; Lowell, 2; Sutton, 1. Total, 8.

Smallpox was reported from Worcester, 5.

Tetanus was reported from Chelsea, 1; Fall River, 1; Haverhill, 1; New Bedford, 1; Shirley, 1. Total, 5.

Trachoma was reported from Arlington, 1; Boston, 2; Braintree, 1; Worcester, 3. Total, 7.

DR. W. B. CANNON'S ADDRESS ON "EVIDENCE OF NERVOUS CONTROL OF SOME INTERNAL SECRETIONS."

DR. W. B. CANNON, of the Physiological Laboratory of the Harvard Medical School, gave a very interesting and instructive talk on the "Evidence of Nervous Control of Some Internal Secretions" before the Research Club of the Harvard Medical School.

He first presented evidence for nervous control of the adrenal medulla. The first evidence to this question was given by de la Paz and Dr. Cannon in 1911. They showed that rhythmically contracting intestinal strips were inhibited when the solution in which they were

contracting contained very minute amounts of adrenin. Blood taken from the inferior vena cava in the region of the lumbal-adrenal veins during or immediately after excitement will cause the same inhibition. Blood taken before excitement will not do this. Therefore, they concluded that the adrenal medulla discharges into the blood stream its peculiar product, adrenin, in periods of emotional stress. Hoskins and Dr. Cannon at a later time, showed that the same result would occur after asphyxia and afferent stimulation. These same stimuli are also known to cause discharge of sympathetic impulses.

Stewart and Rogoff have criticized the above experiments and conclusions. They have declared that the output of adrenin from the adrenal glands is not increased by asphyxia, by reflex stimulation or by excitement. They base their criticism on the fact that the rate of blood flow from the adrenals was not known. Recent evidence, however, tends to show that the blood flow in the inferior vena cava is increased under the conditions mentioned. Thus the tendency would be not to concentrate a constantly secreted adrenin, but to dilute it.

Using denervated heart preparations, Dr. Cannon has shown that by inducing asphyxia, reflex stimulation or excitement, he is able to increase the heart rate from 30 to 50 beats per minute. Such increases did not occur or were relatively slight after removal of the adrenals. Since the heart under these conditions had no nervous control, he claims that the increased rate was due to adrenin secreted into the blood stream. Stewart and Rogoff have criticized this. They said that they obtained the same increases in rate although the adrenals had been removed. In experiments in cooperation with Rapport, Dr. Cannon found that the increase cannot be explained by increased blood pressure, arterial or venous, by warmer blood from the abdomen, or by accessory adrenal tissue. He has since showed that this was because animals that were actively digesting meat were used instead of fasting animals. He also showed that if the hepatic nerves were cut, this increase in rate did not occur even in those animals which were actively digesting. Stewart and Rogoff suggested that the increase in rate was due to redistribution of the blood in the body. Dr. Cannon tested this theory out and found it not to be so. Stewart and Rogoff also claimed that the intestinal strip method used by them is quantitative. Dr. Cannon pointed out that the denervated heart preparations were likewise quantitative.

The experiment of cutting the hepatic nerves, Dr. Cannon pointed out, is evidence that there is nervous control of the liver. He also said that there must be something arising from the liver cells because of stimulation of the hepatic nerves, that caused the increase in the heart rate. "This," he said, "was prob-

ably not due to a true internal secretion produced by the liver, but to discharge from its cells of amino acids or amines which are sympathomimetic in character."

As evidence of nervous control of the thyroid, Dr. Cannon told of experiments that had been performed showing that direct stimulation of the cervical trunk caused electrical, cardiac, and vascular changes. These were proved to be due to secretions from the thyroid for, on removal of the thyroid, these phenomena did not occur except those that could be explained by the secretion of adrenin.

"Thus," he said, "evidence has been adduced that adrenal secretion, an output of a stimulating material from the liver, and likewise thyroid secretion are all subject to sympathetic impulses, i.e., to the activity of that part of the nervous system which is roused in great excitement." He further said that the nature of the nervous control seemed to be single, like that of the biceps for example, with inhibitory or excitatory impulses affecting a central station. He concludes that the reflex centre for adrenal secretion is located near the upper or front edge of the floor of the fourth ventricle and that it is subject to both excitatory and inhibitory nervous impulses. He also brought out the interesting point that this region is in close approximation to that which appears to be concerned in emotional expression. "Head and Holmes, because of clinical studies, were led to the conclusion that the thalamus in man is concerned with the affective side of sensation. It appears that the emotional reactions of animals are not managed in the neopallium but are ingrained in an archaic portion of the nervous system. Possibly it is for this reason that the expression of emotions are so similar in widely different animals.

"The great interest of study along lines here hinted at lies in the association of primitive and archaic reactions occurring in an ancient portion of the nervous organization of the body and operating upon an elementary form of the nervous system (the sympathetic) with the functions of organs which are fundamentally important for the organism, the ductless glands."

VACCINATION PROTECTS.—In 1878 an outbreak of smallpox in a certain district of India carried off 58,000 natives who did not believe in vaccination. Finally, one tribe, the Thakers, who practiced infanticide, allowed their female babies to be vaccinated, thinking it an easy way of getting rid of their surplus offspring. Later came a second visitation of smallpox and killed nearly all of the unprotected male children, leaving the vaccinated girls untouched.—*Bulletin, Chicago School of Public Instruction.*

NOTICES.

CLINICAL MEETING OF STAFF OF MASSACHUSETTS GENERAL HOSPITAL.—The next clinical meeting of the Massachusetts General Hospital staff will be held in the Lower Out-patient Amphitheatre on Monday, December 12, at 8.15 P.M.

1. Presentation of a Case by Dr. Joseph Stokes, Jr.
2. Original Paper on Schistosomiasis.

Dr. Richard P. Strong,
Dr. George C. Shattuck,
Dr. B. Tanabe.

Doctors, nurses and medical students invited.

HARVARD MEDICAL SCHOOL RESEARCH CLUB.—The meeting of the Research Club to be held at the Harvard Medical School Amphitheatre in Building A, at 12.30 o'clock on Friday, November 26th, will be addressed by Dr. Samuel A. Levine on "Some Observations on Pernicious Anemia, with Special Reference to Gastric Anacidity."

BETH ISRAEL HOSPITAL.—There will be a clinical meeting in the Auditorium of the Beth Israel Hospital on Wednesday evening, November 30, at 8.15.

PROGRAM.

Cardiac Syphilis. Dr. William David Smith.
Syphilis of the Central Nervous System.

Dr. Harry C. Solomon.

Discussion: Dr. William Duncan Reid, Dr. C. Guy Lane, Dr. Henry J. Perry.

Physicians are cordially invited. The telephone is Roxbury 5940 and visitors may be on call.

Refreshments will be served.

Committee on Clinical Meetings.

ALBERT EHRENFRIED, M.D., *Chairman.*

E. GRANVILLE CRABTREE, M.D., *Secretary.*

Correspondence.

AN EARLY OVARIOTOMY.

Mr. Editor:—

In "Lectures on the Operations of Surgery" by Robert Liston (American edition, Philadelphia, 1846), occurs the following note by Mütter, editor of the American edition: "Accordingly, we find that some fifty years since—that is, about 1796—L'Ammonier of Rouen extirpated an enlarged ovary with the supposition that it was dropsical. The case turned out, however, to be one of abscess of the organ and the patient ultimately recovered. This was unquestionably, I believe, the first removal of a diseased ovary, but soon after, in 1806, Dr. McDowal of Kentucky performed an operation on a case of real ovarian dropsy and the patient recovered."

If this record is authentic, it would seem to antedate Dr. McDowal's first case by about thirteen years, but would not, of course detract from his honor in establishing the operation in surgery for all time.

Yours truly,

WILLIAM PEARCE COUES, M.D.